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URBAN/MUNICIPAL

Glanbrook Urban Area
Study.

H-W. Dept. of Planning & Development


GLANBROOK URBAN AREA STUDY

with Economic Development
& Planning Committee
Agenda 9, July 7/86

HAMILTON
JUL 1986
GOVERNMENT DOCUMENTS



REGIONAL MUNICIPALITY OF HAMILTON WENTWORTH
PLANNING AND DEVELOPMENT DEPARTMENT
REGIONAL PLANNING DIVISION
JULY 1986



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GLANBROOK
URBAN AREA ANALYSIS

Regional Municipality of Hamilton-Wentworth
Regional Planning Branch
Planning and Development Department

June, 1986

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| <u>1.0 EXECUTIVE SUMMARY</u> | 1 |
| <u>2.0 INTRODUCTION</u> | 3 |
| 2.1 Purpose | 3 |
| 2.2 Background | 3 |
| 2.3 Description of the Study Area | 4 |
| 2.4 Existing Regional Policy | 7 |
| 2.5 Settlement Capability Studies | 7 |
| <u>3.0 RESIDENTIAL GROWTH IN GLANBROOK</u> | 8 |
| 3.1 Regional Population and Household Projections | 8 |
| 3.2 Glanbrook Population Trends and Projections | 9 |
| 3.3 Housing in Glanbrook | 17 |
| 3.3.1 Glanbrook's Housing Inventory | 17 |
| 3.3.2 Glanbrook's Role as a Residential Area | 18 |
| 3.3.3 Household Growth in Glanbrook | 22 |
| 3.3.4 Housing Production in Glanbrook | 22 |
| 3.3.5 Additional Residential Capacity in Glanbrook | 24 |
| 3.4 Regional Housing Requirements | 25 |
| 3.4.1 Historic Trend of Urban Residential Housing Above the Escarpment | 25 |
| 3.4.2 Existing Designated Urban Residential Capacities | 26 |
| 3.5 Potential for Future Residential Development in Glanbrook | 27 |
| 3.5.1 Potential Internal Demand for Housing | 27 |
| 3.5.2 Future Potential for Glanbrook in the Region's Housing Market | 27 |
| 3.6 Conclusion - Residential Demand in Glanbrook | 28 |

| | <u>Page</u> |
|--|-------------|
| <u>4.0 EVALUATION OF ALTERNATE DEVELOPMENT AREAS</u> | 30 |
| 4.1 Introduction | 30 |
| 4.2 Objectives | 30 |
| 4.3 Evaluation Criteria | 31 |
| 4.4 Identification of Alternate Development Areas | 34 |
| 4.5 Analysis of Alternate Development Areas | 36 |
| 4.6 Conclusion- Alternate Development Areas | 50 |

APPENDICES

| | |
|--|----|
| A.1 Interim Report on Servicing Options in Glanbrook | 52 |
| A.2 Description of Alternative Development Areas | 53 |
| A.3 Hamilton Airport Noise Exposure Forecast | 65 |

GLANBROOK URBAN AREA STUDY

1.0 EXECUTIVE SUMMARY

FINDINGS

Development Context

- The majority of land in Glanbrook is used for agricultural purposes with non-farm residential land uses accounting for 7.9% of the land area.
- Residential development is located in the Settlements of Mount Hope, Binbrook, and Woodburn, in a small subdivision adjacent to the City of Hamilton immediately east of Highway 6 and in strip development throughout the Township.
- Most residential development in Glanbrook is related to economic opportunities in Hamilton with the majority of the Township's labour force employed in Hamilton.

Housing Requirements

- Glanbrook's population is projected to remain stable at approximately 9,000 persons to the year 2001.
- There is no requirement to expand the area of Glanbrook designated for urban development to satisfy Region wide housing requirements. Additional designation of land in the Township for urban residential development will therefore have to be justified on the basis of local demand.
- Continuing trends toward smaller household size will result in an additional 500 households in the Township by the year 2001.
- There is also potential for specialized senior citizens' housing to satisfy Region wide demand.

Development Potential

- Potential for development based on private services in Mount Hope, Binbrook and Woodburn is limited due to ground water and soil conditions.
- There are currently approximately 120 buildable lots in Glanbrook.
- Land severances have been providing an average of sixteen new building lots a year. The continuation of this trend will generate an additional 240 buildable lots by the year 2001.

CONCLUSIONS

- In the next 15 years, approximately 150 to 200 residential building lots will be required in Glanbrook in addition to the existing inventory and potential future lots created by means of land severance..
- Areas One and Two immediately south of the Hamilton boundary, east and west of Highway 6 and extending south to Twenty Road, provide the best potential for serviced residential development. Area One could be considered in conjunction with proposals for specialized senior citizens' housing. Area Two could be considered in conjunction with the provision of sanitary sewer services to the existing residential area between it and Highway 6.
- Area Ten immediately south of Mount Hope merits consideration for additional serviced residential development at such time as sanitary sewers have been extended to service the southern portions of the Airport Industrial-Business Park.

2.0 INTRODUCTION

2.1 Purpose

The purpose of this report is to review the need for an urban serviced residential area in Glanbrook and to identify and assess the merits of alternate sites for the location of an urban serviced residential area.

2.2 Background

The Regional Municipality of Hamilton-Wentworth's Official Plan was approved by the Minister of Housing on June 26, 1980. It designates Binbrook as an Urban Policy Area for future residential development on the basis of municipal sewer and water services.

On October 7, 1985 the Engineering Services Committee considered a brief from the Township of Glanbrook entitled "Township of Glanbrook, Binbrook Urban Settlement Area, Servicing Brief". The brief requested that the Region provide sanitary sewers and watermains to the Binbrook Urban Settlement Area by 1991.

In response to the brief, Regional Council approved the following resolution on October 15, 1985:

- i) That a comprehensive review of development options in the Township of Glanbrook be undertaken jointly by Engineering and Planning staff in consultation with the Township of Glanbrook.
- ii) That the Commissioner of Engineering prepare an interim report on options to service areas adjacent Hamilton, as well as the Mount Hope area and that this report be complete in time for the Capital Budget considerations."

An interim report (see Appendix A.1) was received by Regional Council on February 4, 1986. The report identified: the location; approximate size; population capacity; and cost of servicing of "areas in Glanbrook with potential for the installation of full urban services". Five areas were identified and studied.

After receiving the interim report, Regional Council adopted the following resolution:

"That the interim report of the Commissioner of Engineering on the Optional Future Servicing Alternatives for Glanbrook be received and included as input into the joint review of the development options to be undertaken in 1986 by the Engineering and Planning Departments in consultation with the Township of Glanbrook and that no further action on this matter be taken until this comprehensive analysis of alternatives is completed."

This report presents the findings of the joint review.

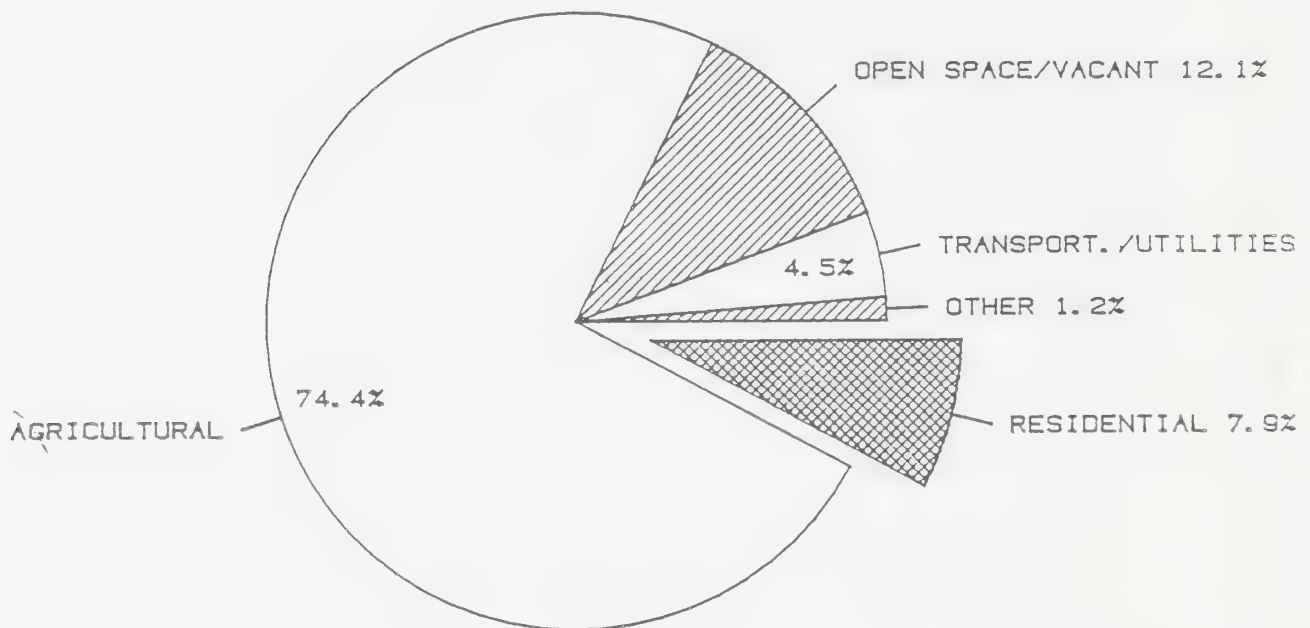
2.3 Description of the Study Area - Township of Glanbrook

The Township of Glanbrook is a predominantly rural area, approximately 200 square kilometres in size.

FIGURE 2.1

GLANBROOK LAND USE - 1984

Source: Regional Planning Department



Source: Regional Planning and Development Department Planning Data System, 1984.

The majority of land (74.4%) in the Township is used for agricultural purposes (Figure 2.1). Open space or vacant lands comprise 12.1% of the Township. Residential uses utilize a further 7.9% of Glanbrook's land area. Transportation and utility uses (including the Hamilton Civic Airport and a major hydro transmission corridor) make up 4.5% of the area of the Township.

Residential development in Glanbrook is concentrated in the settlements of Mount Hope (271 dwellings), Binbrook (166 dwellings) and Woodburn (145 dwellings), and in areas adjacent to the border between Glanbrook and the City of Hamilton. In addition, other residential developments are scattered throughout the rural area in isolated pockets and strip development. Residential development in Glanbrook has largely proceeded without the provision of full urban services (sewer and water) although some residential areas are serviced with piped water. Map 2.1 shows the location of existing water services in Glanbrook.



NOT TO SCALE

LOCATION OF EXISTING MUNICIPAL WATER SERVICES - 1986

MAP 2.1

The population of Glanbrook in 1985 was 9,446 persons. Table 2.1 compares the socio-economic characteristics of the residents of Glanbrook with the total population of Hamilton-Wentworth.

The majority of Glanbrook's residents live in single family dwellings. This accounts for the higher levels of home ownership, larger household sizes, larger family sizes, higher incomes and longer periods of occupancy of residents of Glanbrook than the residents of the Region as a whole.

TABLE 2.1

SOCIO/ECONOMIC CHARACTERISTICS - GLANBROOK AND HAMILTON-WENTWORTH - 1981

| | GLANBROOK | HAMILTON- WENTWORTH |
|--|-----------|------------------------|
| LENGTH OF OCCUPANCY OF CURRENT DWELLING | | |
| Less than 1 year | 8% | 15% |
| 1 to 2 years | 8% | 16% |
| 3 to 5 years | 12% | 19% |
| 6 to 10 years | 22% | 16% |
| more than 10 years | 50% | 34% |
| TENURE OF DWELLING | | |
| Owned | 89% | 62% |
| Rented | 11% | 38% |
| AVERAGE HOUSEHOLD SIZE | 3.3 | 2.8 |
| AVERAGE FAMILY SIZE | 3.4 | 3.2 |
| EDUCATION (POPULATION OVER 15 YEARS OF AGE) | | |
| Less than High School | 50% | 51% |
| High School Diploma | 16% | 13% |
| Non-University with Diploma | 16% | 13% |
| University Degree | 4% | 7% |
| INCOME | | |
| Average Family Income | \$29,245 | \$26,532 |
| Average Household Income | \$28,811 | \$23,896 |

Source: Statistics Canada, Census of Canada, 1981. Special Tabulations.

Note: Household refers to "a person or group of persons" occupying a dwelling.

Family refers to "a husband and a wife (with or without children...), or a lone parent of any marital status, with one or more children who have never married..., living in the same dwelling".

2.4 Existing Regional Policy

The Hamilton-Wentworth Official Plan contains a number of policies that affect urban residential development in Glanbrook.

The Official Plan designates three areas as Urban Policy Areas in Glanbrook:

- Binbrook as an urban community with an ultimate population of approximately 6,000 people;
- the "Glanbrook Industrial-Business Park", a 300 hectares (+ 750 acres) area, located in the north-central area of the Township, and;
- the "Airport Industrial-Business Park" a 270 hectares (+ 670 acres) area, adopted by Regional Council as Official Plan Amendment number 15 (pending Provincial approval).

The remainder of Glanbrook is designated as "Rural Policy Areas" in the Regional Official Plan. Residential development in the rural policy areas is restricted to:

- Rural Settlement Areas - Mount Hope and Woodburn;
- Rural Residential Estate Developments - at the present time, there are no rural residential estate developments in Glanbrook;
- Rural Mobile Home Developments - at the present time there are no rural mobile home developments in Glanbrook; and
- other development subject to land severance policies.

2.5 Settlement Capability Studies

The Region completed settlement capability studies for Woodburn, Binbrook and Mount Hope in 1980, 1981 and 1982 to determine their suitability for privately serviced development.

The studies revealed that all three areas are limited in development potential for residential uses. The studies concluded that:

- Residential development in Binbrook based on private water supply and septic disposal systems be limited to infilling with a minimum lot size of 0.51 hectares (1.25 acres).;
- Development in Woodburn be limited to infilling in areas outside of the Twenty Mile Creek floodplain with a minimum lot size of 0.81 hectares (2 acres); and
- Development in Mount Hope based on private systems be limited to development with a minimum lot size of 1.6 hectares (4 acres). Development based on municipal water and septic disposal systems could occur on lots of 0.4 hectares (1 acre).

3.0 RESIDENTIAL GROWTH IN GLANBROOK

3.1 Regional Population and Household Projections

In 1985, the population of Hamilton-Wentworth was 421,264 and there were an estimated 156,028 households in the Region.

Table 3.1 shows projections for population and households for Hamilton-Wentworth to the year 2001.

TABLE 3.1

Hamilton-Wentworth

Existing and Projected Population and Households

| | 1985 | 1991 | 1996 | 2001 |
|-----------------------|----------|---------|---------|---------|
| Population | 421,264* | 438,500 | 444,000 | 445,000 |
| Households | 160,944* | 170,800 | 175,500 | 179,800 |
| Persons per Household | 2.6 | 2.6 | 2.5 | 2.5 |

Sources - Hamilton-Wentworth Planning and Development Department,
Regional Housing Statement - Update, 1982

* Actual as measured by Ministry of Revenue-Assessment.

The population projections were conducted in 1982. The projections shown are the "most likely" projections which are based on: moderately declining fertility rates; moderately declining death rates, and; a net migration of 400 persons per year into the Region. (Fertility is the average number of births per woman in the "child bearing years", not the birth rate, i.e. the total number of births in the Region.) The household projections are based on the population projections and the projected household propensity rate by age and sex categories. The propensity rate is the likelihood of a person in a particular age and sex category to form a household.

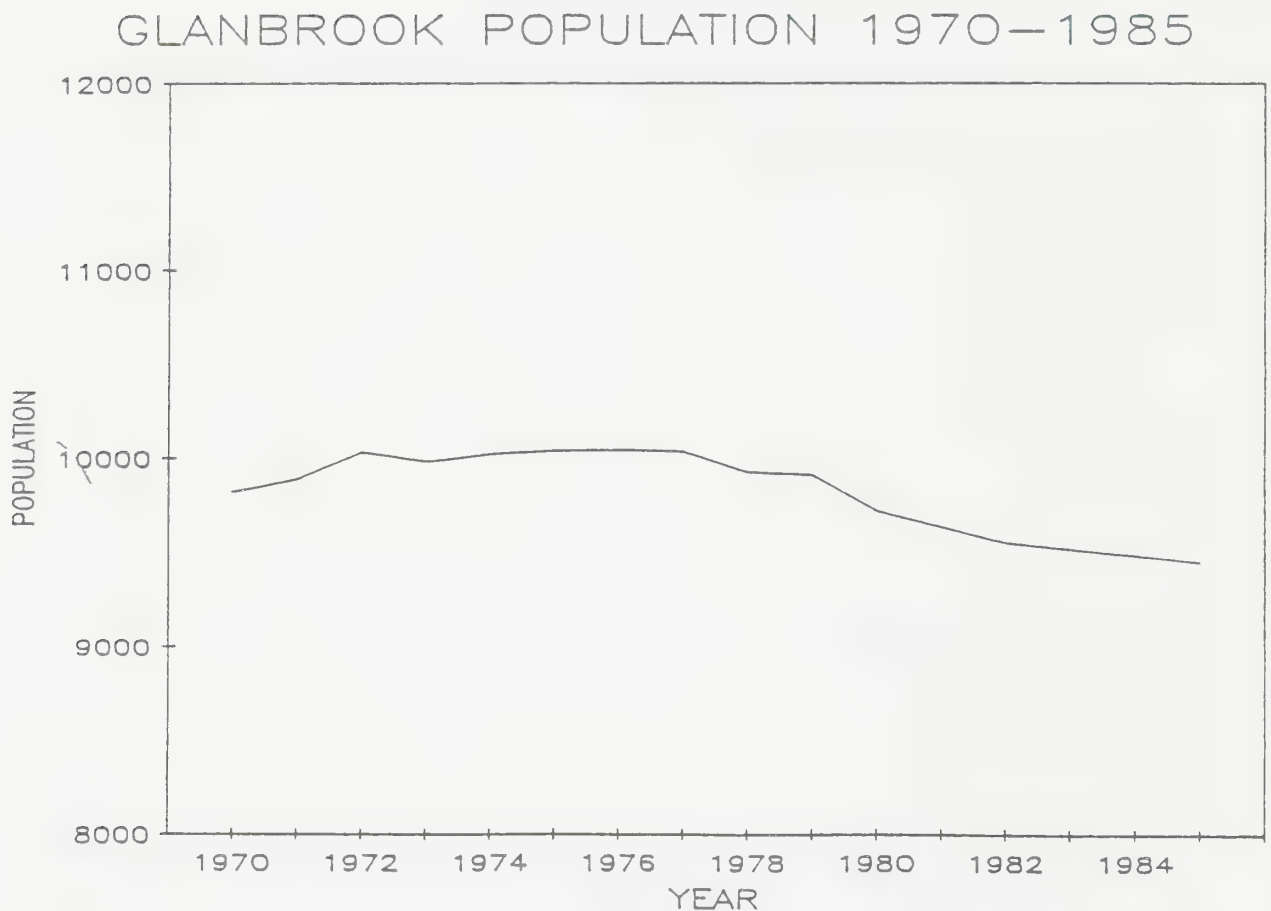
By 2001 the Region is projected to have a population increase of approximately 24,000 persons. Household growth is projected to increase at a rate that is much higher than the population as a whole due to a projected decrease in the average household size from 2.7 persons per household in 1985 to 2.5 persons per household in 2001. As a result, an additional 24,000 new housing units are projected to be required in the Region by the year 2001.

3.2 Glanbrook Population Trends and Projections

Glanbrook's population was 9,446 in 1985.

The Township of Glanbrook has experienced a loss in population in the last 10 years (Figure 3.1).

FIGURE 3.1



Source: Ministry of Revenue-Assessment

Figure 3.2 shows the change in Glanbrook's population from 1871 to 1981. The chart shows that the majority of the Township's growth came in the 1951 to 1971 period.

FIGURE 3.2

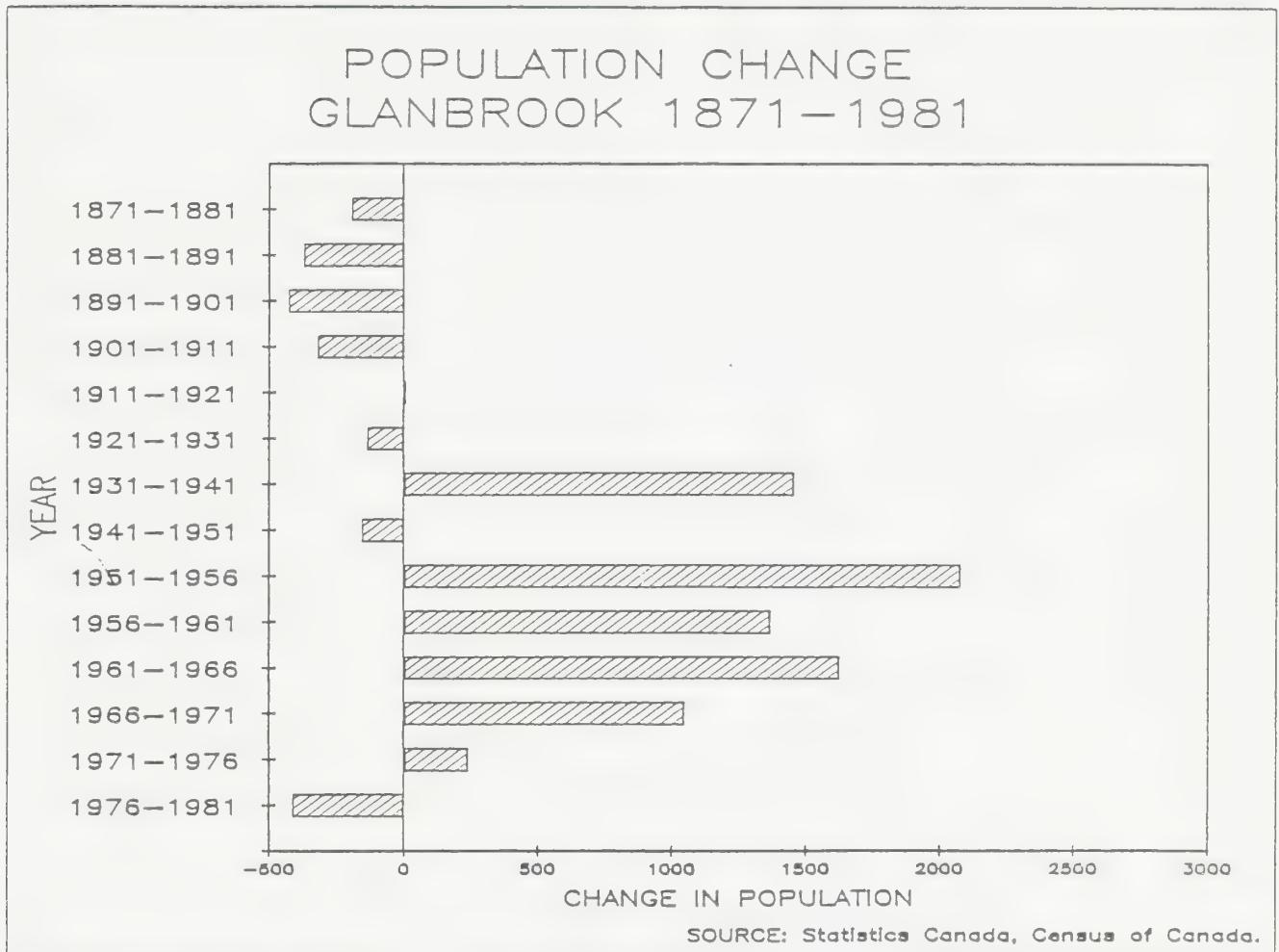


Table 3.2 shows that Glanbrook has experienced a net outflow of population due to migration since 1973 (people leaving the Township to live elsewhere).

TABLE 3.2

COMPONENTS OF GLANBROOK POPULATION CHANGE 1970-1985

| YEAR | POPULATION | TOTAL INCREASE | BIRTHS | DEATHS | NATURAL INCREASE* | NET MIGRATION |
|----------|------------|-------------------|--------|--------|----------------------|------------------|
| 1970 | 9,821 | | | | | |
| 1971 | 9,889 | 68 | 127 | 56 | 71 | -3 |
| 1972 | 10,032 | 143 | 125 | 53 | 72 | 71 |
| 1973 | 9,980 | -52 | 138 | 45 | 93 | -145 |
| 1974 | 10,023 | 43 | 147 | 41 | 106 | -63 |
| 1975 | 10,057 | 34 | 122 | 35 | 87 | -53 |
| 1976 | 10,047 | -10 | 126 | 41 | 85 | -95 |
| 1977 | 10,039 | -8 | 115 | 54 | 61 | -69 |
| 1978 | 9,945 | -94 | 113 | 45 | 68 | -162 |
| 1979 | 9,934 | -11 | 127 | 42 | 85 | -96 |
| 1980 | 9,737 | -197 | 99 | 37 | 62 | -259 |
| 1981 | N.A. | | 92 | 40 | 52 | |
| 1982 | 9,585 | | 92 | 33 | 59 | |
| SUBTOTAL | | -152 | 184 | 73 | 111 | -132 ** |
| 1983 | | | 84 | 37 | 47 | |
| 1984 | | | 126 | 48 | 78 | |
| 1985 | 9,446 | | 112 | 52 | 60 | |
| SUBTOTAL | | -139 | 322 | 137 | 185 | -108 *** |
| AVERAGE | | | 116 | 44 | 72 | -97 |

* Note: Natural Increase is equal to births - deaths.

** Note: Average annual rate between 1981 and 1982. Data is not available for 1981.

*** Note: Average annual rate between 1983 and 1985. Data is not available for 1983 and 1984.

SOURCE: Assessment and Registrar General.

From 1974 to 1985, Glanbrook lost population due to migration in the majority of age groups (Figure 3.3). The highest losses are in the age range from 15 to age 24. This fact is characteristic of many rural agricultural or rural commuting areas.

FIGURE 3.3

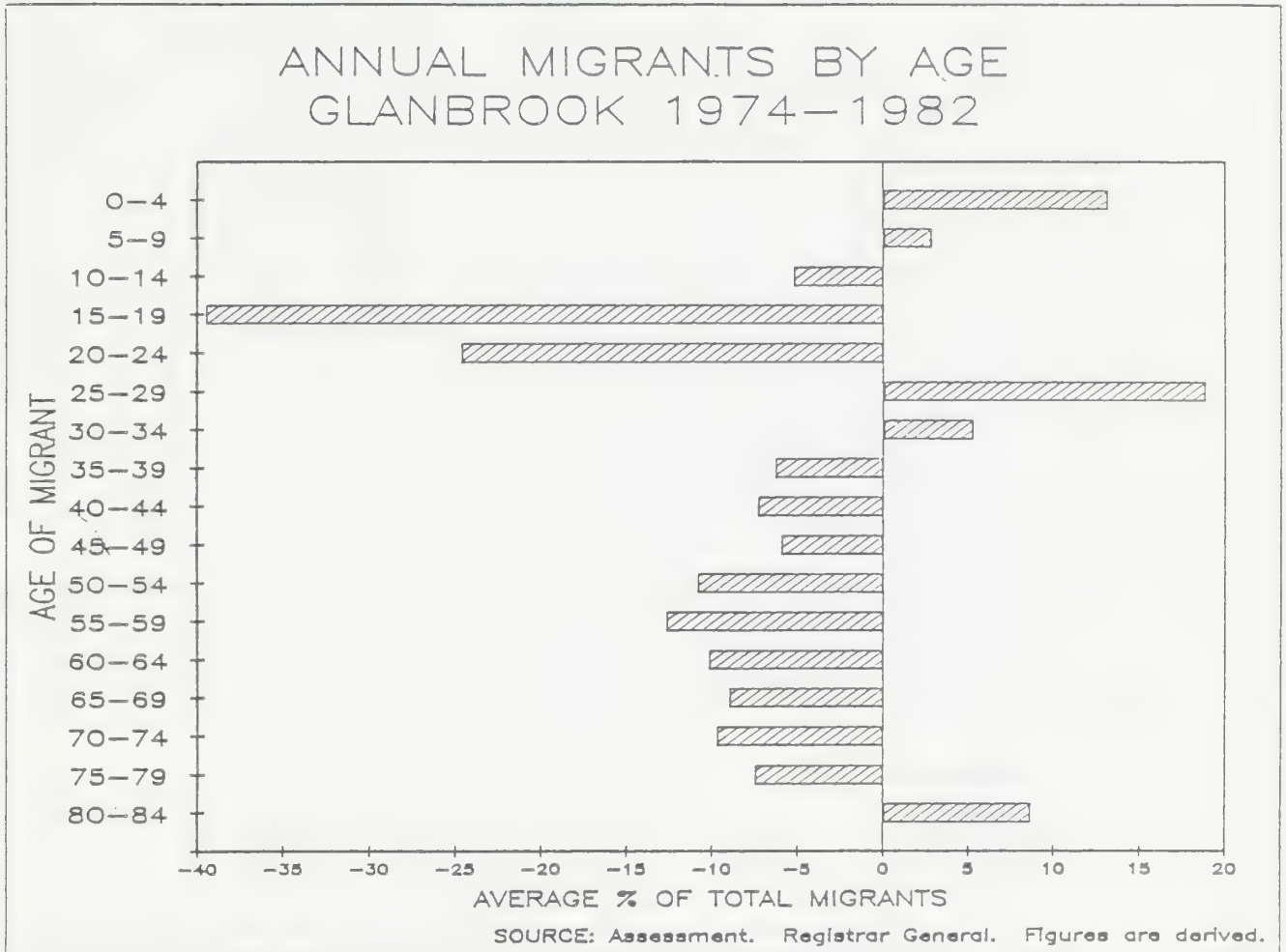
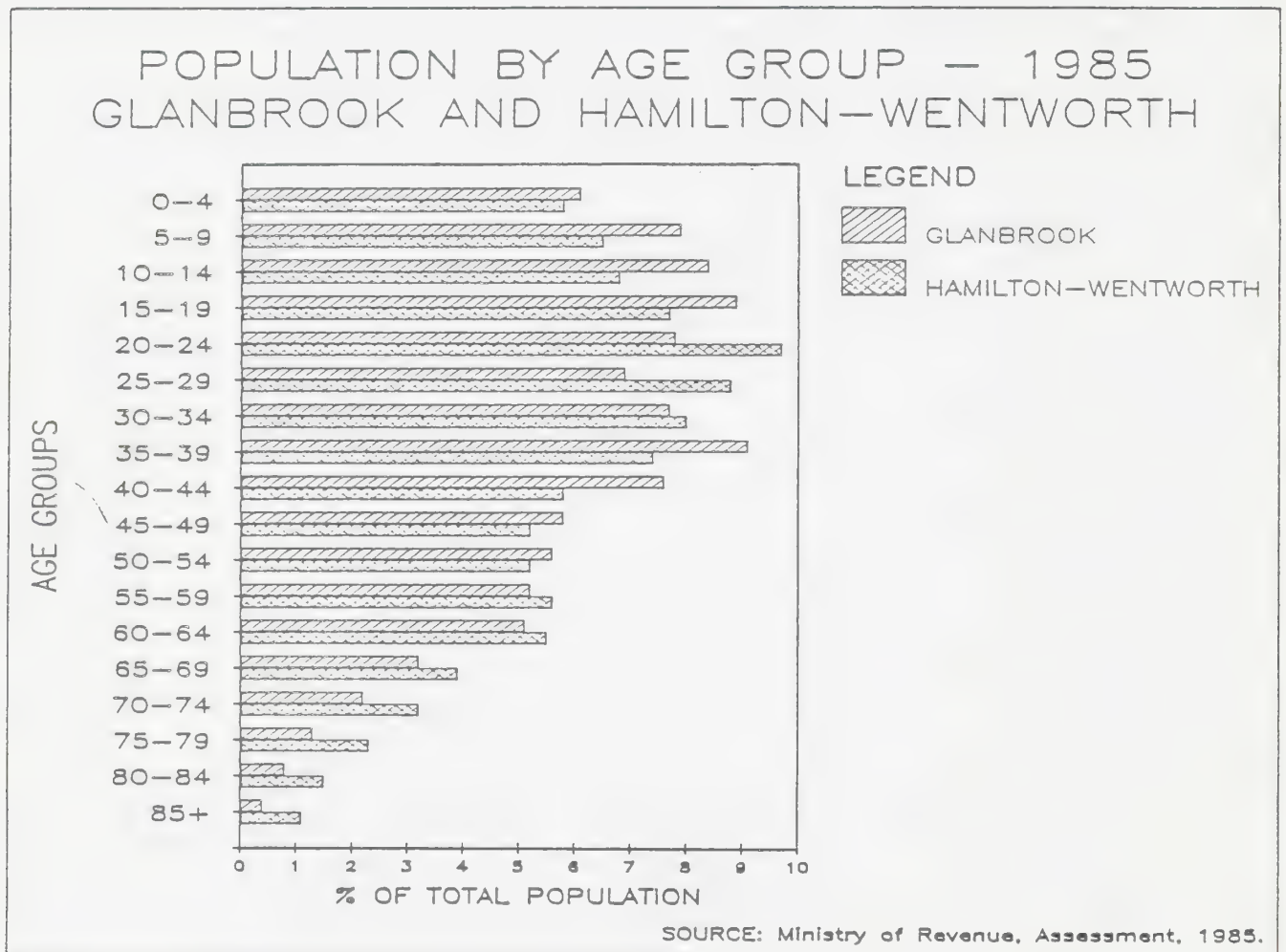


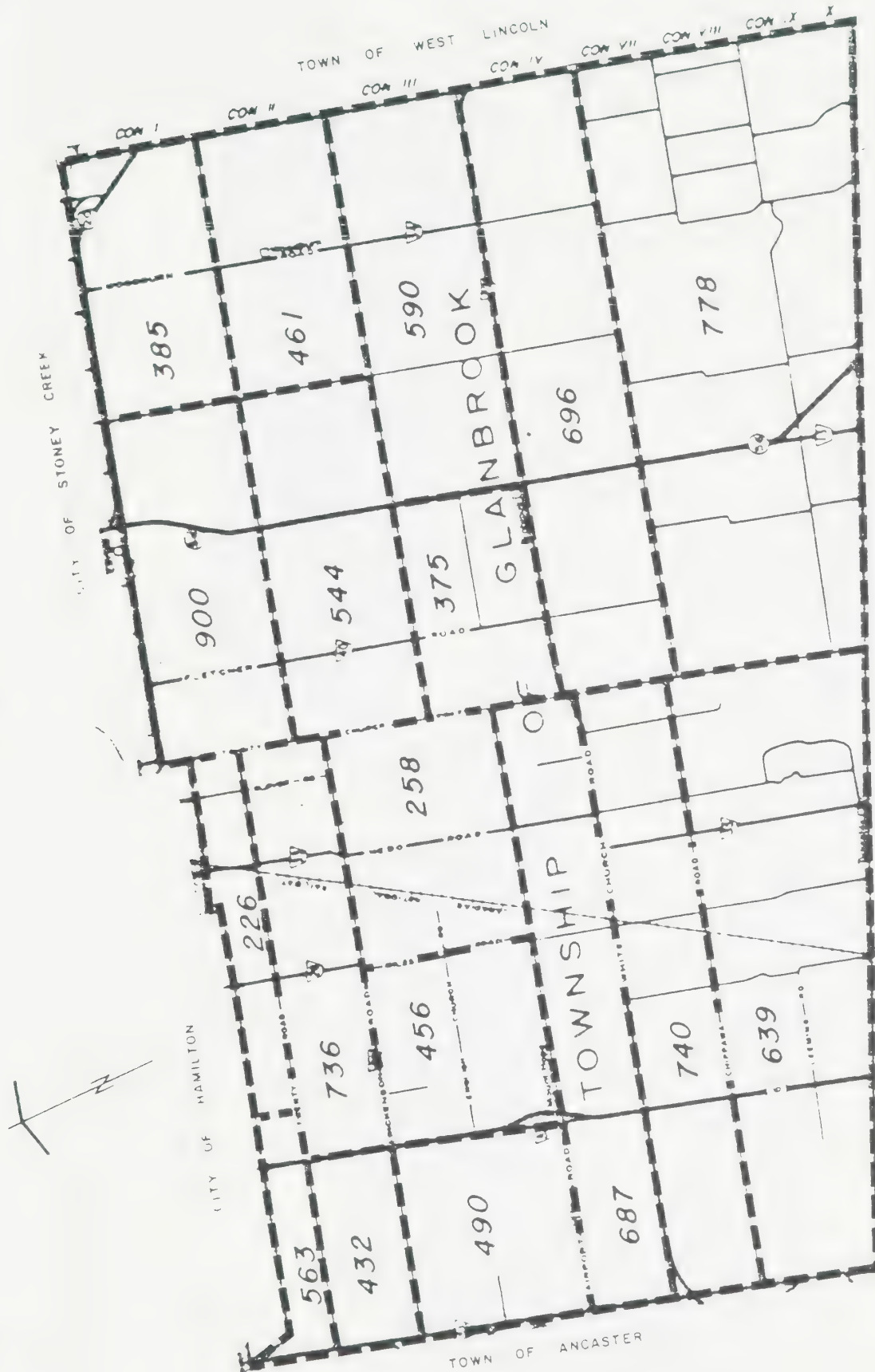
Figure 3.4 compares the age distribution of the population in Glanbrook and Hamilton-Wentworth. The chart shows that Glanbrook has a higher proportion of its population in the 5 to 19 and 30 to 44 age groups. Glanbrook's proportion of population is lower in the 20 to 29 and 65+ age groups.

FIGURE 3.4



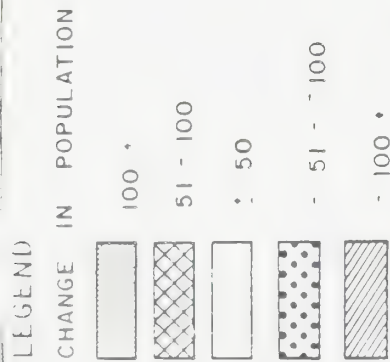
Map 3.1 shows the distribution of population in Glanbrook in 1985. The population of Glanbrook is fairly evenly dispersed although there are some concentrations of population along the northern part of the Township.

Map 3.2 shows the change in population in Glanbrook for the period from 1975 to 1985. The areas in the west (the former Glanford Township) have lost population since 1975, while growth has occurred in some areas in the east of the Township.



1985 POPULATION BY DISTRIBUTION - GLANBROOK

MAP 3.1



NOT TO SCALE

CHANGE IN POPULATION BY ASSESSMENT AREA - GLANBROOK

1975 - 1985

MAP 3.2

The most recent population projections (Table 3.3) show that the trend of a slowly declining population in Glanbrook is likely to continue to the year 2001.

TABLE 3.3
Glanbrook Population and Household Projections

| | 1985 | 1991 | 1996 | 2001 |
|----------------------|--------|-------|-------|-------|
| Population | 9,446* | 9,500 | 9,500 | 9,000 |
| Households | 3,016* | 3,500 | 3,500 | 3,500 |
| Person Per Household | 3.1 | 2.8 | 2.7 | 2.6 |

Sources - Regional Planning and Development Department,
Regional Housing Statement - Update, 1982

- *Actual as measured by Ministry of Revenue, Assessment 1985

The basis of these projections are the same as those for the Region that are discussed in section 3.1 of this report with the exception of the net migration rate. The assumptions were: moderately declining fertility; moderately declining death rates, and; a net out-migration rate that is less than that experienced in Glanbrook in the last 10 years.

Table 3.3 also shows that there is a projected increase of approximately 500 households by 2001. This increase is based on a projected decline in the number of persons per household from the current level of 3.1 to 2.6 by the year 2001.

3.3 Housing In Glanbrook

3.3.1 Glanbrook's Housing Inventory

Table 3.4 shows the existing housing inventory for Glanbrook. The majority of housing units in Glanbrook are single family dwellings.

TABLE 3.4

1984 Glanbrook Occupied Housing Inventory By Type

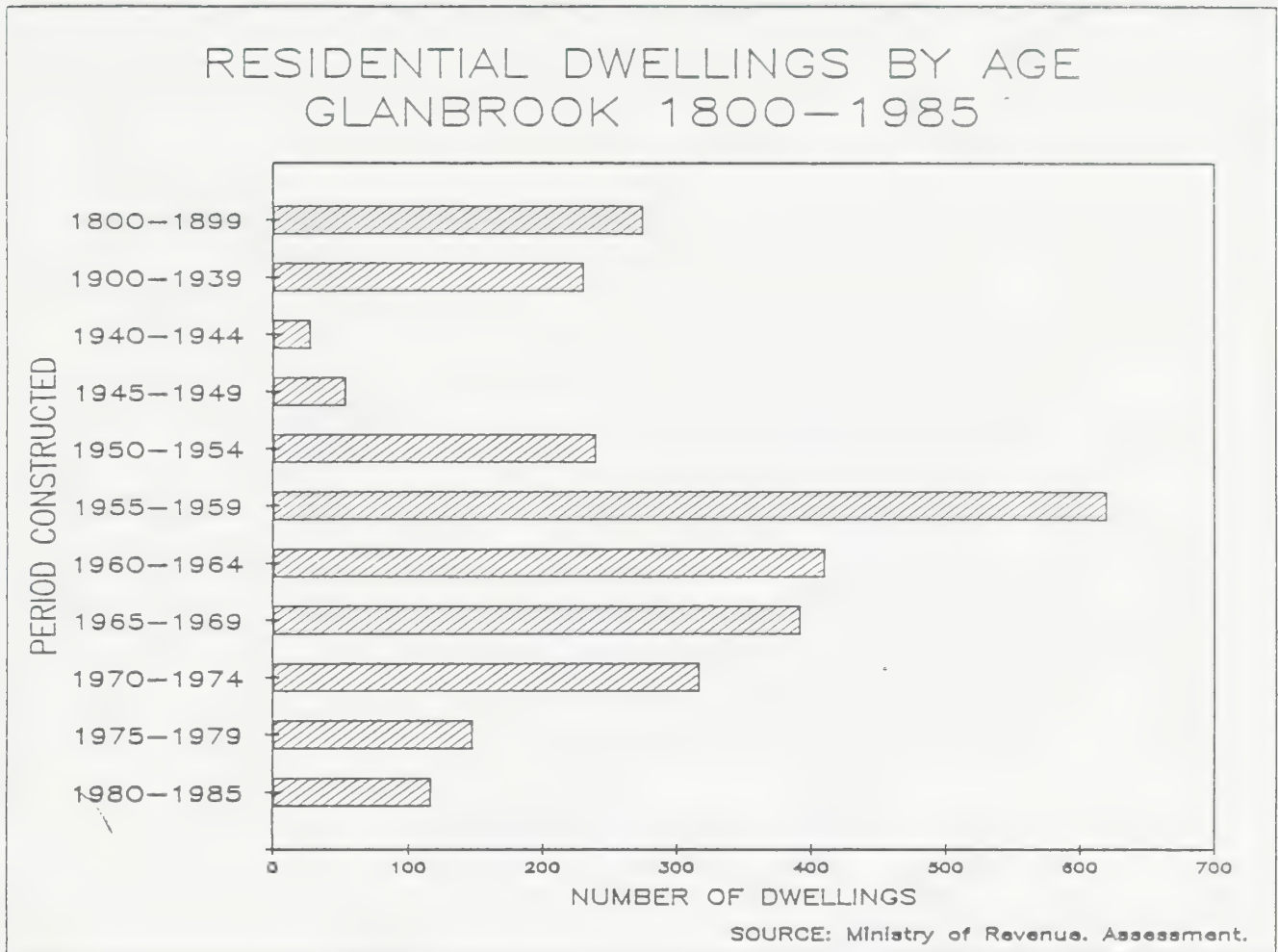
| <u>Housing Type</u> | <u>Number of Units</u> | <u>Percent of Total</u> |
|---------------------|------------------------|-------------------------|
| Single | 2,853 | 96% |
| Semi | 17 | 1% |
| Row | 0 | 0% |
| Apartment | 85 | 3% |
| Other | <u>5</u> | <u>0%</u> |
| TOTAL | 2,961 | 100% |

Source: Regional Planning and Development Department. Planning Data Systems, 1984.

The majority of the apartment units in Glanbrook are located in the settlements of Binbrook and Mount Hope. Of the apartments in Glanbrook, 36% are designed for senior citizens.

The period of construction of existing housing in Glanbrook is shown on Figure 3.4. The chart shows that the peak period of housing construction in the Township was from 1955 to 1969, coinciding with the large increase in population and increase in household size that occurred throughout North America associated with the "baby boom".

FIGURE 3.4



The average age of dwellings in Glanbrook is 36 years old.

3.3.2 Glanbrook's Role As A Residential Area

Although agricultural uses account for the majority of land use in Glanbrook, only 12% of the 1985 residential dwellings are classified by the Provincial Ministry of Revenue's Assessment Department as farm related dwellings.

Figure 3.5 shows that only 385 (8%) of Glanbrook's total labour force of 4,895 was employed in the agricultural industry in 1981.

FIGURE 3.5

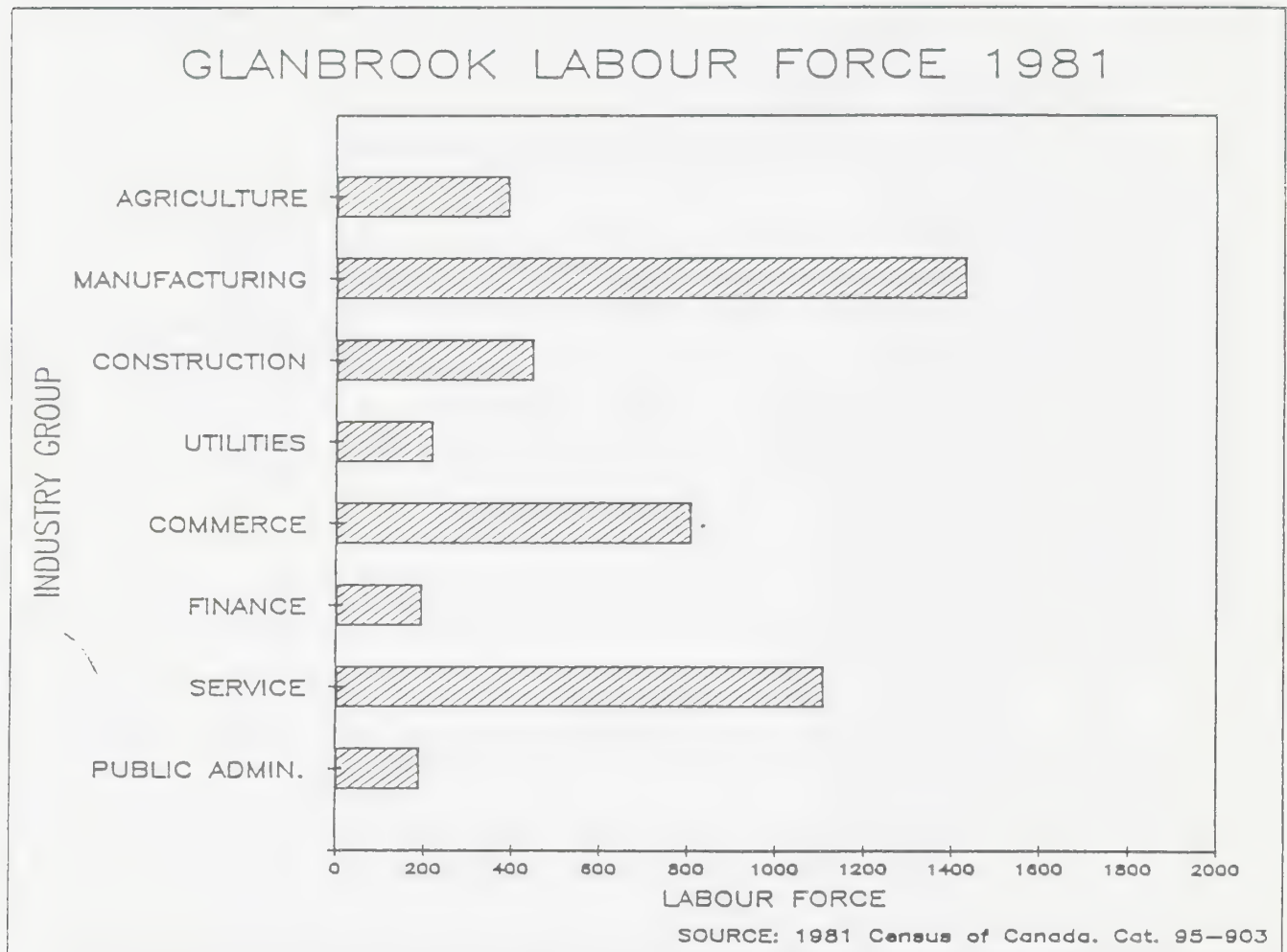
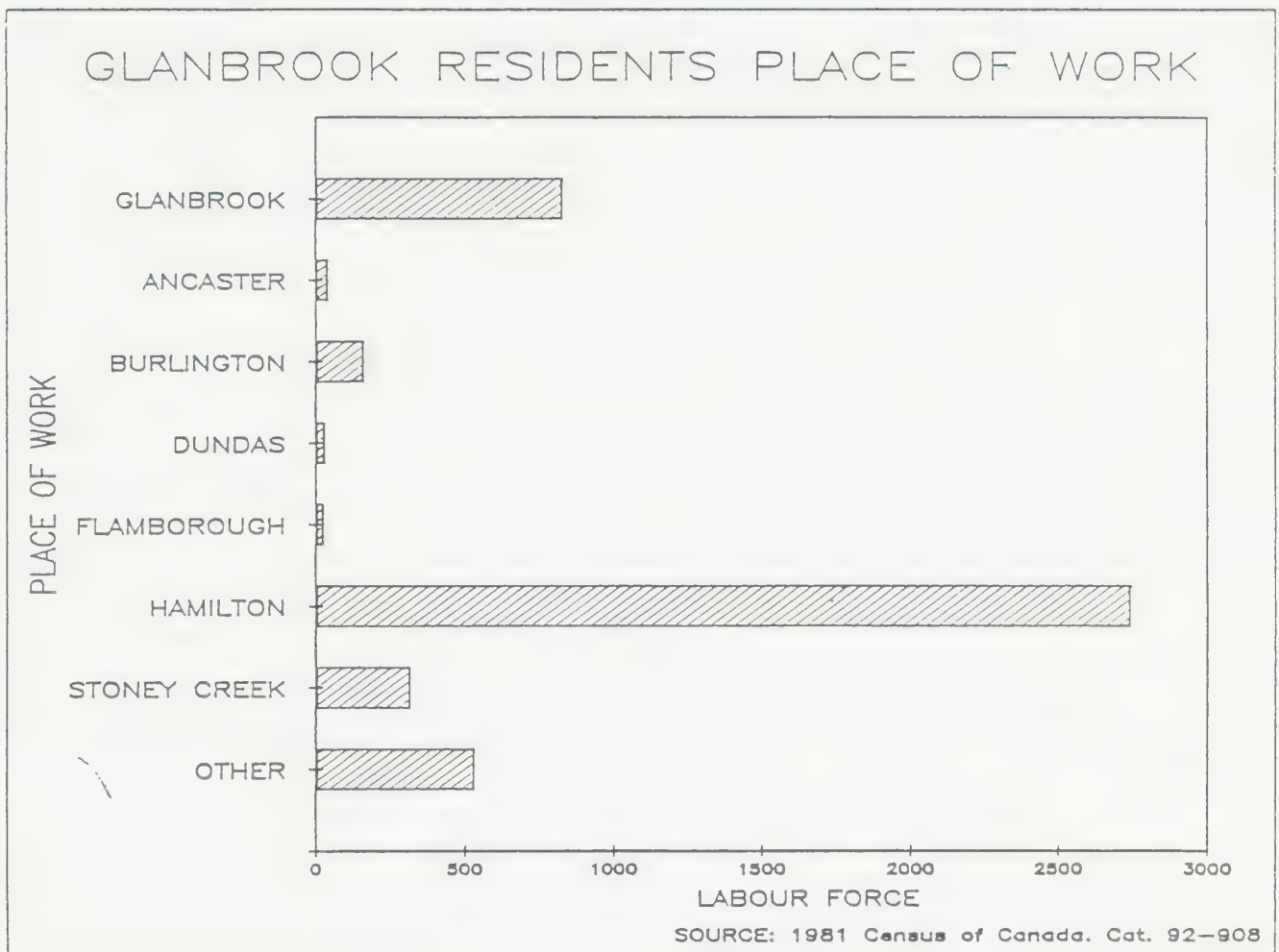


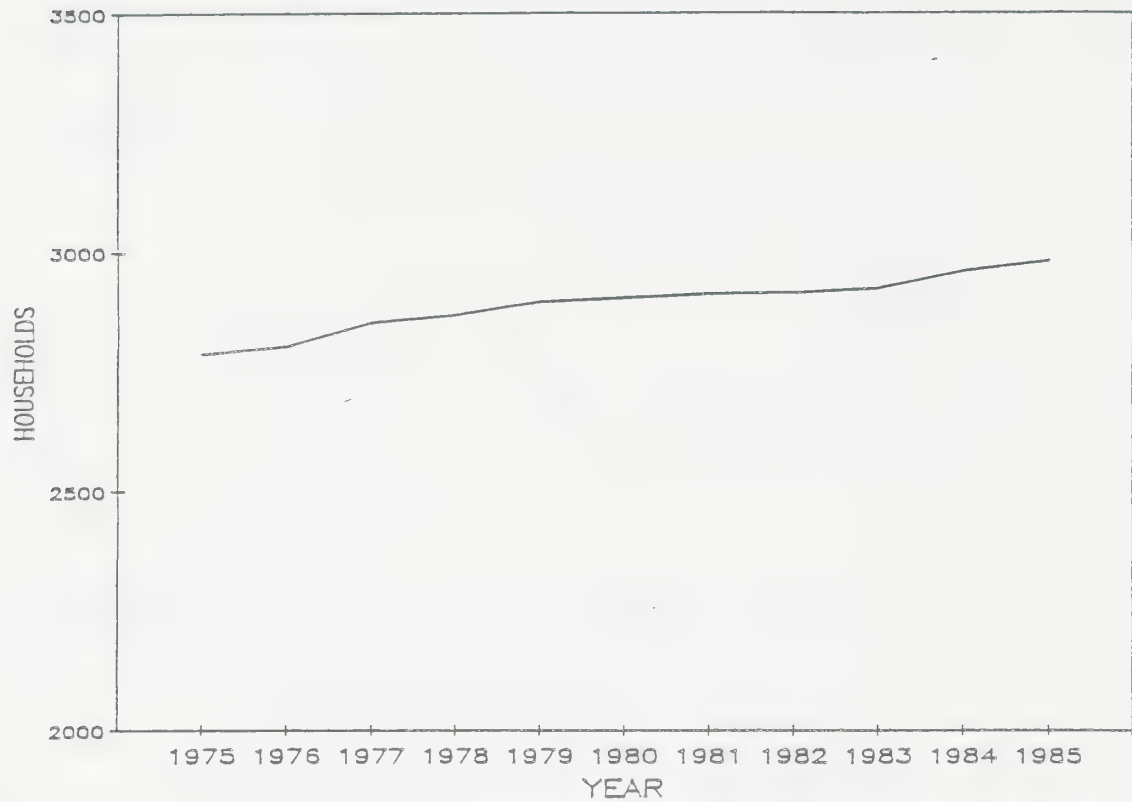
FIGURE 3.6



The majority of Glanbrook's residents work outside of the Township (Figure 3.6). Glanbrook's major residential role is as a commuter-shed for households whose working members are employed in non-agricultural industries outside of the Township. It is likely that new households establishing in Glanbrook would also fit this non-agricultural and commuting pattern.

FIGURE 3.7

GLANBROOK HOUSEHOLD GROWTH — 1975—1985

FIGURE 3.8

GLANBROOK PERSONS PER DWELLING — 1975—1985



3.3.3 Household Growth in Glanbrook

Figure 3.7 shows the growth of households in Glanbrook from 1975 to 1985. The graph shows that the Township has experienced a slow but steady growth over the last 10 years in spite of a modest decline in population. The increase in households and decrease in population has occurred due to a steady decline in the size of households as shown in Figure 3.8. This decrease in household size is due to falling fertility rates and the aging of the "baby boom" into age groups where they are leaving the family home and are forming their own households.

3.3.4 Housing Production in Glanbrook

The amount and type of new housing constructed in Glanbrook from 1976 to 1985 is shown on Table 3.5. The majority of housing built in Glanbrook over the last 10 years have been single family dwellings. The exception was in 1984 when 31 senior citizen apartment units were built. If the senior citizen units (which received special housing incentive grants) are discounted, the Township has averaged 19 housing units constructed per year over the last ten years.

TABLE 3.5
Housing Completions in Glanbrook 1976-1985

| | <u>Singles</u> | <u>Semis</u> | <u>Row</u> | <u>Apartments</u> | <u>Total</u> |
|----------------------|----------------|--------------|------------|-------------------|--------------|
| 1976 | 29 | 0 | 0 | 2 | 31 |
| 1977 | 32 | 0 | 0 | 0 | 32 |
| 1978 | 13 | 0 | 0 | 0 | 13 |
| 1979 | 24 | 0 | 0 | 0 | 24 |
| 1980 | 13 | 0 | 0 | 0 | 13 |
| 1981 | 16 | 0 | 0 | 0 | 16 |
| 1982 | 10 | 0 | 0 | 0 | 10 |
| 1983 | 16 | 0 | 0 | 0 | 16 |
| 1984 | 18 | 0 | 0 | 31 | 49 |
| 1985 | 21 | 0 | 0 | 0 | 21 |
| Average 1976-1985 | 19 | 0 | 0 | 3 | 23 |

Source: C.M.H.C.

Table 3.6 shows the number of residential lots created by land severance in Glanbrook from 1976-1985. There have been no new subdivisions registered in Glanbrook since 1976; therefore the land severance process has been the only method through which residential building lots were created in the Township in the last ten years.

TABLE 3.6

Residential Lots Created By Land Severance

In Glanbrook 1976-1985

| | Number of Lots |
|-------------------|----------------|
| 1976 | 26 |
| 1977 | 26 |
| 1978 | 18 |
| 1979 | 5 |
| 1980 | 2 |
| 1981 | 10 |
| 1982 | 9 |
| 1983 | 20 |
| 1984 | 24 |
| 1985 | <u>17</u> |
| Average 1976-1985 | 16 |

Source: Land Division Committee

The average number of new dwellings completed has been greater than the number of lots created. This suggests that the existing inventory of residential lots is being utilized and/or that new dwellings are being built to replace existing dwellings.

The average sale price of dwellings sold in Glanbrook in the first half of 1985 was significantly higher than in the Region as a whole. (Table 3.7) However housing prices in Glanbrook may not be directly comparable with Regional figures as a whole due to differences in average building size, lot size, age, etc. Average lot sizes are significantly larger in Glanbrook than in the Region as a whole.

TABLE 3.7Average Cost of Single Family HousingJanuary - June 1985

| | <u>Average Sale Price</u> |
|--------------------|-------------------------------|
| Glanbrook | \$ 73,316 |
| Hamilton-Wentworth | \$ 60,023 |

Source: TEELA

3.3.5 Additional Residential Capacity in Glanbrook

At the present time, there are limited opportunities for the further development of "traditional" unserviced residential lots in Glanbrook.

As discussed in section 2.4 of this report, residential development in the settlements of Binbrook, Mount Hope and Woodburn is limited due to soil and groundwater conditions.

A survey conducted in 1985 showed that there were approximately 120 existing vacant buildable lots in Glanbrook.

3.4 Regional Housing Requirements

3.4.1 Historic Trend of Urban Residential Housing Above the Escarpment

Table 3.8 shows the growth in households in areas above the escarpment in the Region from 1975 to 1984.

TABLE 3.8

"MOUNTAIN" OCCUPIED HOUSEHOLD GROWTH 1975-1984

| | Number of New Households | | | | | | | | | | 9 YEAR AVERAGE % OF TOTAL MOUNTAIN AREA |
|---|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|---|
| | 1975- 1976 | 1976- 1977 | 1977- 1978 | 1978- 1979 | 1979- 1980 | 1980- 1981 | 1981- 1982 | 1982- 1983 | 1983- 1984 | 9 YEAR AVERAGE | |
| ANCASTER | 21 | 81 | 66 | 91 | 131 | 128 | 93 | 212 | 262 | 121 | 11.8% |
| GLANBROOK | 16 | 50 | 15 | 27 | 9 | 7 | 2 | 9 | 37 | 19 | 1.8% |
| UPPER STONEY CREEK | 167 | 387 | 162 | 160 | 122 | 108 | 106 | 258 | 230 | 189 | 18.5% |
| HAMILTON MOUNTAIN | 962 | 1,077 | 494 | 524 | 637 | 500 | 660 | 604 | 784 | 694 | 67.9% |
| TOTAL "MOUNTAIN" AREA | 1,166 | 1,595 | 737 | 802 | 899 | 743 | 861 | 1,083 | 1,313 | 1,022 | 100.0% |
| TOTAL REGION | 2,718 | 2,885 | 1,018 | 2,511 | 1,889 | 1,628 | 1,980 | 1,437 | 2,135 | 2,022 | |
| % OF TOTAL REGIONAL HOUSEHOLD GROWTH | 42.9% | 55.3% | 72.4% | 31.9% | 47.6% | 45.6% | 43.5% | 75.4% | 61.5% | 50.5% | |

SOURCE: Hamilton-Wentworth Planning Department, Planning Data Systems.

Growth in the "Mountain" area has averaged 1,022 new households annually over the last nine year period. This represents 50% of the Region's total household growth.

While undeveloped residential areas below the escarpment in Hamilton are limited and will soon be fully developed given the current rate of development, significant infilling and redevelopment opportunities remain. In addition, undeveloped residential areas remain in "lower" Stoney Creek, Dundas and in the Waterdown area.

3.4.2 Existing Designated Urban Residential Capacities

The capacities of the areas designated for urban residential growth on the escarpment in Hamilton-Wentworth are shown in Table 3.9.

TABLE 3.9

EXISTING CAPACITIES OF DESIGNATED RESIDENTIAL AREAS ON THE ESCARPMENT

| AREA | DWELLING UNIT CAPACITY OF UNDEVELOPED DESIGNATED URBAN AREAS |
|----------------------|--|
| ANCASTER | 8,300 |
| "UPPER" STONEY CREEK | 8,900 * |
| HAMILTON MOUNTAIN | 25,900 |
| TOTAL | 43,100 ** |

* Note: Does not include area bounded by Second Road West, Highway 20, Mud St., and the Escarpment.

** Note: Does not include Binbrook.

SOURCE: Area Municipality Local Planning Departments.

Excluding Binbrook, there is an existing urban designated capacity for approximately 43,000 dwellings above the escarpment. Based on the average number of dwellings constructed over the last nine years on the escarpment (1,022), this represents a reserve capacity for 42 years of development potential. This is also approximately twice the capacity required to accommodate the projected household growth for the entire Region to the year 2001.

3.5 Potential for Future Residential Development in Glanbrook

3.5.1 Potential Internal Demand for Housing

As noted in Section 3.2, there is a projected demand for an additional 500 dwelling units in Glanbrook by the year 2001 to support the projected population of 9,000 (due to a projected decline in average household size).

Some additional internal demand for housing may also occur as a result of the development of new employment opportunities in the Township. Possible new employment generators include:

- the Glanbrook Industrial-Business Park;
- the Airport Industrial-Business Park; and
- other employment generated by the expansion of the Hamilton Civic Airport.

However, given existing commuting patterns, the impact of these developments on the Glanbrook housing market would be marginal. Therefore, it is difficult to assess the impact of these new employment generators.

3.5.2 Future Potential for Glanbrook in the Region's Housing Market

Section 3.1 of this report identifies that an additional 24,000 new households are projected to be required in the Region by the year 2001.

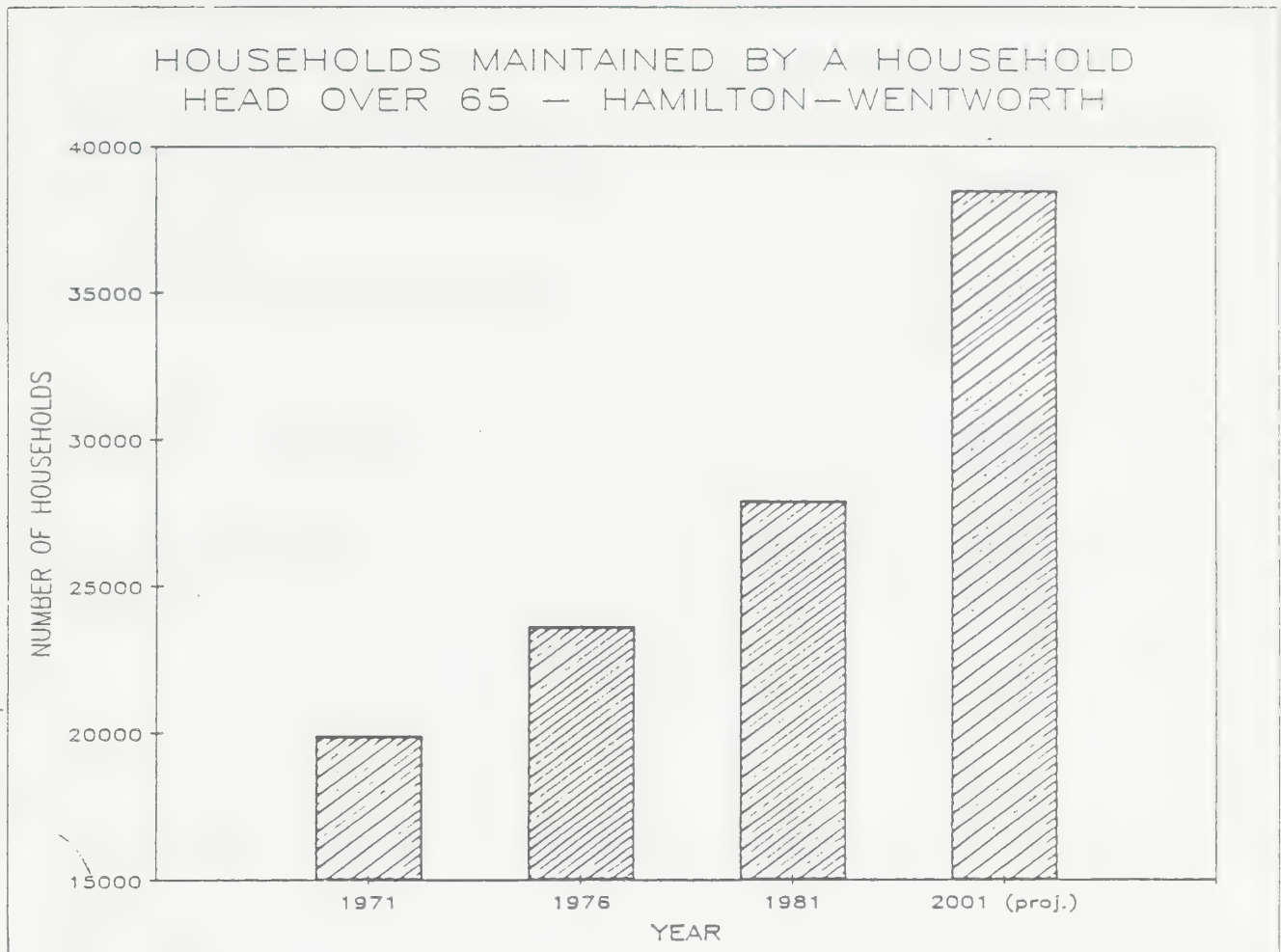
Given the current designated capacity of the Region above the escarpment (43,106) and the area below the escarpment, there is already a supply of designated urban residential lands available in excess of projected Regional housing requirements to the year 2001.

There have been some proposals to develop areas in Glanbrook as planned retirement communities. This concept has been successfully adapted to housing constructed in Hamilton in areas adjacent to the Township of Glanbrook. Housing developed as part of a retirement community would draw residents from a Region-wide market, not just from Glanbrook.

Figure 3.9 shows the number of households maintained by a "head of the household" over 65 years of age in the Region from 1971 to 1981. The growth of these types of households from 1971 to 1981 was 8,005, an increase of 40%. The number of households in this "over 65" category is expected to rise to 38,500 by 2001, a further increase of 10,595 households.

It seems likely that the Regional market for specialized housing for senior citizens will continue to grow.

FIGURE 3.9



Source: Statistics Canada Census of Canada Special Tabulation and, Regional Municipality of Hamilton-Wentworth Planning and Development Department, Regional Housing Statement Update, 1982.

3.6 Conclusion - Residential Demand in Glanbrook

1. Since the 1950's, residential development in Glanbrook has been closely related to economic opportunities in Hamilton. The majority of Glanbrook's labour force now commutes to employment opportunities in Hamilton.
2. Additional lands in Glanbrook are not required to accommodate future Regional housing demand. The lands designated for future residential development above the escarpment in Hamilton, Stoney Creek and Ancaster already provide approximately twice the capacity required to accommodate projected household growth for the Region to the year 2001 or sufficient land to meet requirements for the next 40 years.

3. Additional residential development in Glanbrook must be justified on the basis of demand generated by changing demographic conditions within the Township.
4. Glanbrook's population is projected to remain stable at approximately 9,000 persons to the year 2001. However, up to 500 additional housing units will be required to accommodate that population as a result of decreasing household size.
5. Existing vacant buildable lots and future lots created by means of land severances to the year 2001 will accommodate between 300 to 350 additional dwelling units.
6. An additional 150 to 200 residential building lots will be required to meet projected housing demand in Glanbrook to the turn of the century.
7. In addition, some potential exists for additional residential lands to accommodate part of the potential Regional demand for specialized housing for senior citizens.

4.0 EVALUATION OF ALTERNATE DEVELOPMENT AREAS

4.1 Introduction

The purpose of this section of the report is to identify and evaluate alternate areas for their potential to meet the identified requirements for urban residential development.

The process used consists of the following steps:

- the identification of the objectives of the evaluation;
- the identification of the criteria used to evaluate the alternate areas;
- the identification of potential alternate areas for urban residential development;
- the evaluation of the alternate areas based on the identified criteria; and
- the selection of a preferred area.

4.2 Objectives

The following objectives were utilized in the evaluation of the alternate residentially designated urban areas in Glanbrook:

Development Objectives:

- to provide sufficient lands for development to fulfill the housing needs of the Township and the Region;
- to identify an area that can effectively compete with other serviced urban residential areas;
- to provide development that is contiguous to existing or proposed urban development;
- to provide a distinct identity for the Township;
- to minimize the disruption to the rural character of the Township;
- to minimize the direct impacts on existing residents and business's;
- to minimize the loss of prime agricultural land and the disruption of agricultural operations; and
- to minimize conflicts with existing Official Plan designations and policies.

Implementation Objectives:

- to minimize the cost and maximize the cost effectiveness of the provision of sewer and water services;
- to develop an area with urban services that are considered necessary for the health, safety and convenience of its residents; and
- to minimize conflicts between development and natural environmental features such as flood plains, headwaters, hazard lands, forests and wood lots.

It is recognized that some of the objectives conflict. The evaluation criteria and methodology provide a means of allowing for trade offs between conflicting objectives.

4.3 Evaluation Criteria

Table 4.1 provides a description of the evaluation criteria and their respective measures that were used to evaluate the alternative areas. The evaluation criteria are the practical expressions of the objectives previously identified in the report. The measures are the actual means used to assess or quantify the criteria.

TABLE 4.1

SITE EVALUATION CRITERIA AND MEASURES

| <u>EVALUATION CRITERIA</u> | <u>MEASURES</u> |
|---|---|
| <u>DEVELOPMENT OBJECTIVES</u> | |
| ● Adequacy of available developable land to meet projected demand. | <ul style="list-style-type: none"> - size of un-utilized or under-utilized lands. - estimate of potential units and potential population. |
| ● Establishment of a Township "Identity" or "Municipal Centre". | <ul style="list-style-type: none"> - subjective evaluation of the suitability of the site as a municipal centre (accessability, central location, visability). |
| ● Ability of the area to compete with lands currently designated for urban development. | <ul style="list-style-type: none"> - subjective measure of the ability of the area to compete with other areas. i.e. to ensure its development. (distance from other developing urban areas, setting, accessability, etc.) |

- Suitability of area as a logical extension of the Regional Urban Development Area.

subjective measure of the location of the area as a logical extension of the Regional urban area. (distance from designated urban area)
- Changes to the rural character of the Township.

- size, location and visibility of the alternative areas.
- Impacts on adjacent land uses caused by the new urban area, (both existing and planned adjacent uses).

- number, size and proximity of properties affected by each adjacent land use.
- Impacts of adjacent existing or proposed land uses on the proposed urban area.

- size and proximity of properties affected by such as:

 - projected noise contours for the Hamilton Civic Airport;
 - proposed road alignment for the Highway #6 by-pass;
 - railway lands;
 - existing and planned industrial lands; and
 - agricultural operations.
- Impacts of urban development on existing land uses located within the proposed urban area.

- number and size of properties affected including residential dwellings, agricultural operations and other land uses.

- population affected.
- Loss of agricultural lands.

- based on the number and size of existing agricultural properties and the soil capability and use of the properties.
- Intrusion into existing agricultural operations.

- proximity, type and intensity of existing agricultural operations

- social/cultural impact of urban area on agricultural operations and lifestyle.
- Impact on other urban residential designated areas in the Region.

- impact of increased competition for urban serviced residential growth.

- Changes in the quality of municipal services.
 - estimate of the likelihood of improvements or degradation to the municipal services received by existing residents. e.g. provision of municipal water or sewers.
- Conflict with existing land use plans.
 - impact of change of land use designations from rural or industrial to urban residential.

IMPLEMENTATION OBJECTIVES

- Cost and cost effectiveness of servicing (water, sanitary sewers, storm sewers).
 - estimated costs of external servicing.
 - calculated costs per housing unit.
- Availability and cost of the provision of other services. (e.g. schools, retail, health, transportation, transit.)
 - proximity, capacity and accessibility of available services.
 - cost of the provision of additional services.
- Topographic/environmental restrictions.
 - presence and size of area affected due to hazard lands, environmentally sensitive areas, drainage, and landforms.
 - measures necessary to overcome the restrictions identified above and the cost of such measures.
- Other constraints to development.
 - e.g. property ownership and configuration.
 - number, average size, and median size of properties.
 - identification of major land holders and their likelihood of developing lands for urban residential uses.

4.4 Identification of Alternate Development Areas

Eleven alternate urban development areas were selected for evaluation. The selection of areas was based on a number of factors including: the feasibility of providing municipal services; the existence of established development; the compatibility between the size of the area and the identified requirement for development; the proximity of the area to existing and planned development; and the historic development patterns in the Township. The alternate areas include the existing settlements of Mount Hope and Binbrook and nine separate areas between the City of Hamilton border and Dickenson Road.

The majority of the areas are bounded by roads. The western boundary of Mount Hope (Area 10) is defined by the proposed re-alignment of Highway No. 6. The northern and southern boundaries of Binbrook (Area 11) are defined by utility easements, as established by the Regional Official Plan.

A series of tables describing the various alternate areas are provided in appendix A 2.



NOT TO SCALE

MAP 4.1

ALTERNATE DEVELOPMENT AREAS

4.5 Analysis of Alternate Development Areas

Table 4.2 summarizes the evaluation of each of the eleven alternate areas based on the measures shown in Table 4.1.

All of the alternate areas contain sufficient land to provide for at least the 200 building lots identified as the maximum requirement in Chapter Three. None of the alternates contain an identified environmental sensitive area.

The key elements of the evaluation of the eleven alternate areas are highlighted in the following text.

Table 4.2 - 1

EVALUATION OF ALTERNATIVE URBAN AREA SITES

| EVALUATION MEASURES | AREA 1 | AREA 2 | AREA 3 | AREA 4 | AREA 5 | AREA 6 | AREA 7 | AREA 8 | AREA 9 | AREA 10 | AREA 11 |
|--|---|----------------|--------------------------|---|----------------|--|---|--------------------------|---|--|---|
| DEVELOPMENT OBJECTIVES | | | | | | | | | | | |
| Total size (hectares) | 214 | 43 | 121 | 186 | 61 | 383 | 381 | 149 | 294 | 109 | 347 |
| Gross Area available for development (hectares)* | 110 | 36 | 69 | 112 | 46 | 268 | 355 | 122 | 247 | 78 | 300 |
| Net Area available for development (hectares)** | 76 | 17 | 69 | 84 | 46 | 176 | 266 | 92 | - 185 | 78 | 225 |
| Number of possible new dwellings*** | 1,140**** | 204 | 828 | 1,005 | 552 | 2,106 | 3,192 | 1,100 | 2,223 | 936 | 2,700 |
| Possible new population accommodated***** | 2,070 | 612 | 2,484 | 3,015 | 1,656 | 6,318 | 9,576 | 3,300 | 6,669 | 2,808 | 8,100 |
| Establishment of a Township Identity | Low | Low | Low | Low | Low | Low | Low | Low | Low | High | High |
| Unique urban characteristics | Proposed Retirement community | None | None | None | None | None | None | None | None | Established Settlement | Established Settlement |
| Ability to compete with other urban areas | High | High | High | High | High | Low | Low | Low | Low | Low | High |
| Logical extension of Regional urban development area | High | High | High | High | High | Low | Low | Low | Low | Low | Low |
| Land use conflicts - Internal (number of people affected) | 153 | 4 | 112 | 59 | 14 | 430 | 341 | 132 | 265 | 265 | 537 |
| Land use conflicts - external | | | Ind. Park | | Ind. Park | Airport & Transit Centre | | Ind. Park | | Airport | |
| Number of existing dwellings receiving additional municipal services | 50 | 1 | 16 | 19 | 3 | 139 | 105 | 39 | 97 | 86 | 198 |
| Loss of agricultural land | | | | | | | | | | | |
| - Number of operations affected | 5 | 2 | 6 | 4 | 4 | 12 | 22 | 14 | 21 | 7 | 17 |
| - Total hectares affected | 100 | 36 | 65 | 85 | 46 | 238 | 344 | 122 | 235 | 77 | 342 |
| - Class of agricultural lands | 100% - Class 1 | 100% - Class 1 | 20% - Class 1 | 60% - Class 1 | 100% - Class 1 | 80% - Class 1 | 100% - Class 1 | 80% - Class 1 | 90% - Class 1 | 90% - Class 1 | 100% - Class 1 |
| Regional Official Plan - designation(s) | - Rural - Industrial - Business - Park | - Rural | 80% - Class 2 - Rural | 40% - Class 2 - Industrial - Business - Park | - Rural | 20% - Class 2 - Rural - Industrial - Business - Park | - Rural - Industrial - Business - Park | 20% - Class 2 - Rural | 10% - Class 2 - Industrial - Business - Park | 10% - Class 2 - Rural - Settlement - Area | - Future Development - Residential & Related - Uses |
| Glanbrook (draft) Official Plan - designation(s) | - Residential - Airport - Related - Commercial | - Agricultural | - Agricultural | - Rural - Industrial - Business - Park | - Agricultural | - Airport - Related - Industrial - Business - Park - Open Space - Conservation - Agricultural | - Agricultural | - Agricultural | - Rural - Industrial - Business - Park | - Residential - General - Commercial | - Residential |

* Note: Includes vacant lands, agriculturally utilized lands, and surplus lands owned by Ontario Hydro.

** Note: Includes gross developable area minus lands proposed for special purposes and lands owned by the City of Hamilton. Areas 4, 6, 7, 8, 9, 11, have had their developable areas reduced by 25% to allow for land uses other than residential such as: parks, neighbourhood commercial, etc. Area 1 and 6 do not include lands designated for the Airport Industrial-Business Park. Area 6 does not include an area designated for use as a golf course.

*** Note: Based on 12 dwellings per gross hectare of net developable lands. - (assumes single family dwellings)

**** Note: Includes 900 proposed senior citizens units.

***** Note: Based on 3 persons per dwelling, except for 900 proposed senior citizens units in area 1 which are based on 1.5 persons per dwelling.

Table 4.2 - 2 (cont.)

| EVALUATION MEASURES | | | | | | | | | | AREA 1 | AREA 2 | AREA 3 | AREA 4 | AREA 5 | AREA 6 | AREA 7 | AREA 8 | AREA 9 | AREA 10 | AREA 11 |
|--|--|--|--|--|--|--|--|--|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| IMPLEMENTATION OBJECTIVES | | | | | | | | | | | | | | | | | | | | |
| Availability of sanitary sewers | | | | | | | | | | | | | | | | | | | | |
| Availability of storm sewers | | | | | | | | | | | | | | | | | | | | |
| Availability of piped municipal water | | | | | | | | | | | | | | | | | | | | |
| Cost of external servicing to area | | | | | | | | | | | | | | | | | | | | |
| Cost of external servicing per net developable hectare | | | | | | | | | | | | | | | | | | | | |
| Presence of hazard lands | | | | | | | | | | | | | | | | | | | | |
| Presence of environmentally sensitive areas | | | | | | | | | | | | | | | | | | | | |
| Drainage/storm water limitations | | | | | | | | | | | | | | | | | | | | |
| Topography | | | | | | | | | | | | | | | | | | | | |
| Property configuration/owners | | | | | | | | | | | | | | | | | | | | |
| Mean property size (hectares) | | | | | | | | | | | | | | | | | | | | |
| Median property size (hectares) | | | | | | | | | | | | | | | | | | | | |
| Number of properties over 5 hectares | | | | | | | | | | | | | | | | | | | | |
| Number of properties over 10 hectares | | | | | | | | | | | | | | | | | | | | |
| Number of properties over 25 hectares | | | | | | | | | | | | | | | | | | | | |
| Accessibility of area | | | | | | | | | | | | | | | | | | | | |
| Availability of public transportation | | | | | | | | | | | | | | | | | | | | |
| Availability of educational services | | | | | | | | | | | | | | | | | | | | |
| Public-primary | | | | | | | | | | | | | | | | | | | | |
| Public-secondary | | | | | | | | | | | | | | | | | | | | |
| Separate-primary | | | | | | | | | | | | | | | | | | | | |
| Separate-secondary | | | | | | | | | | | | | | | | | | | | |
| Availability of retail/service facilities | | | | | | | | | | | | | | | | | | | | |
| Availability of health care facilities | | | | | | | | | | | | | | | | | | | | |

* Note: Adjacent watermain do not have enough capacity to service entire area. Cost assumes that area to the north will not be developed and that services would still have to be brought through from the north.

** Note: Of the total \$2.6 million, \$1.6 million is required to service the airport Industrial Business Park.

*** Note: Assuming the airport Industrial-Business park is developed prior to this area. Net servicing costs are thus \$1,000,000.

AREA NO. 1

Location: North of Twenty Road West and west of Highway No. 6

Total Area: 214 hectares

Developable Area: 76 excluding commercially designated lands in the east portion of area.

Development Capacity: 1,140 dwellings

Estimated External Servicing Cost: \$600,000 for sanitary sewer from south-east

Comments: The eastern portion of this area (34 hectares) has already been designated for commercial purposes in the Region's and the Township's Official Plans. A total of 76 hectares remains for possible residential development.

Lands to the north of Area 1 in Hamilton have been developed as a senior citizens retirement community. Based on the success of that development, there may be sufficient demand to justify additional development of a similar nature. Applications for such developments have already been received for two properties (consisting of 56 hectares) in area one. The proposals for the two properties allow for a potential total of 900 seniors' units. If those areas develop as specialized senior citizen housing, 20 hectares (approximately 300 dwellings) would remain for general residential development.

Conclusion: This area provides one of the best alternatives for an urban service residential area, with many attributes and few negative impacts.

Any development for general residential purposes in alternative one should be considered in conjunction with the possible development of specialized senior citizen housing development.

AREA NO. 2

Location: North of Twenty Road East and east of Highway No. 6

Total Area: 43 hectares

Developable Area: 17 hectares excluding lands owned by the City of Hamilton.

Development Capacity: 204 dwellings

Estimated External Servicing Cost: \$400,000 for sewer along Twenty Road to Highway No. 6

Comments: A substantial portion of the land in the east of this area is owned by the City of Hamilton, Parks Department and Cemetary Board. The owners have plans for the properties that exclude their consideration for residential purposes. A total of 17 hectares remain available for development in this alternative excluding these lands. However, this would still provide a sufficient number of residential units to meet the projected housing requirements of 200 dwellings

The provision of services to this area would also provide sanitary sewers to the 144 existing dwellings immediately to the west and 45 existing dwellings to the south of the area.

Conclusions: Area 2 would provide the necessary number of dwellings to meet the projected requirements. It is located adjacent to an existing residential residential area in Glanbrook and would provide a logical extension to that development.

AREA NO. 3

Location: North of Twenty Road East at Miles Road

Total Area: 121 hectares

Developable Area: 69 hectares

Development Capacity: 828 dwellings

Estimated External Servicing Cost: \$870,000 for sanitary sewers and watermains from the north.

Comments: The area does not contain nor is it adjacent to an identified residential area in Glanbrook. It is adjacent to proposed residential development in Hamilton. Therefore it would probably be identified most closely with Hamilton and provide little in the way of identity to Glanbrook.

The area is adjacent to the designated Industrial-Business Park in Glanbrook. There would be a potential for conflict between the two uses.

Conclusions: Area number 3 would not meet the development objectives as well as Areas 1 and 2.

AREA NO. 4

Location: North of Twenty Road East at Nebo and Glover Roads

Total Area: 186 hectares

Developable Area: 112 hectares

Development Capacity: 1,005 dwellings

Estimated External
Servicing Cost: Services presently exist to the boundary of this area.

Comments: This area is presently designated as an Industrial-Business Park in the Regional Official Plan and the Glanbrook Official Plan. The area is a logical extension of the industrial area immediately to the north in Hamilton.

This area, along with area number 9 to the south provide one of the best opportunities in the Region for large scale assembly of readily serviced industrial lands.

The development of this area for residential purposes would eliminate 186 hectares for future industrial use and would jeopardize the future development for industrial purposes of an additional 294 hectares immediately to the south which are also designated Industrial-Business Park. If this area were developed for residential purposes and the area to the south were developed as an Industrial-Business Park, then the residential area would be isolated between two industrial areas. Such a development pattern which would likely result in numerous conflicts between the residential and the industrial land uses is not recommended.

Conclusions: Area number 4 conflicts with the Region's and the Township's plans for industrial development.

AREA NO. 5

Location: East of Trinity Church Road at the Stoney Creek boundary

Total Area: 61 hectares

Developable Area: 46 hectares

Development Capacity: 552 dwellings

Estimated External Servicing Cost: \$540,000 for the expansion of sanitary sewer facilities from the east.

Comments: Area 5 is the most isolated from existing residential development in the Township. It is located across Highway 53 from lands in Upper Stoney Creek slated for development as part of the Heritage Green Development. If developed, the area would probably be associated with the Stoney Creek development.

The development of this area could be complicated by the adjacent designated Industrial-Business Park to the west. The development of the industrial area could further isolate this area from other residential areas in Glanbrook and could cause future land use conflicts.

Conclusions: Area 5 does not meet the objectives for development as well as Areas 1 and 2.

AREA NO. 6

Location: South of Twenty Road West and west of Highway 6

Total Area: 383 hectares

Developable Area: 176 hectares are available after lands designated for the Airport Industrial-Business Park and for a golf course are excluded.

Development Capacity: 2,106 dwellings

Estimated External Servicing Cost: \$900,000 - \$460,000 for northern portion of area (same sewers as area number 1) and \$300,000 for the south-east portion

Comments: The 73 hectares on the east end of this area are presently designated by the Region and the Township for development as part of the Airport Industrial-Business Park. Development of that part of the area was already started with the development of the Hamilton Street Railway Transit Centre.

The 51 hectares at the west end of the area has been designated as open space/parkland to accommodate a golf course that is in the final stages of planning.

Part of area 6 was once proposed as the original site of the Airport Industrial-Business Park. The designation of area number 6 as an Industrial-Business Park was deferred by the Ontario Municipal Board in a decision in 1981 on the basis of the impact that the designation would have on the loss of agricultural land. A subsequent study resulted in a change in the location of the Airport Industrial-Business Park to lands adjacent to Highway 6 in order to minimize the loss of agricultural lands.

The area is adjacent to the Airport and the southern portion of the area will be impacted by noise according to the latest noise estimates and C.M.H.C. standards. (See Appendix)

Conclusions: Development of this area prior to the development of area number 1 to the north would leave an isolated pocket of rural land to the north.

The development of area number 6 would result in a substantial loss of agricultural land. Dwellings in the south portion of the area would be subject to noise from the airport.

AREA NO. 7

Location: South of Twenty Road East and east of Highway 6

Total Area: 381 hectares

Developable Area: 355 hectares

Development Capacity: 3,192 dwellings

Estimated External Servicing Cost: \$1,500,000 for sanitary sewers, sewage pumping station and watermains - assuming area to the north remains unserviced and area 7 is substantially developed.

Comments: This area has the greatest impact on agricultural land of the alternate areas. It could remove up to 344 hectares from agricultural use and negatively affect 22 farming operations. The development of this area could also negatively affect farming operations to the north, east and south.

The impact on agricultural lands would be even more pronounced since this would be a major intrusion into agricultural lands east of Highway 6. Highway 6 was considered a firm boundary to development when plans were prepared for the Airport Industrial-Business Park.

The area would be one of the most difficult to develop since up to 25% of it could be considered to be hazard land. Development of the area could require either special development design, an expensive storm drainage system, severe limits on development or a combination of all three.

Conclusions: This area would not be suitable for development due to its high servicing costs, potentially high loss of agricultural lands, disruption to surrounding agricultural operations and the large area of hazard lands in it.

AREA NO. 8

Location: South of Twenty Road and east of Miles Road

Total Area: 149 hectares

Developable Area: 122 hectares

Development Capacity: 1,100 dwellings

Estimated External Servicing Cost: \$1,500,000 for sanitary sewers, sewage pumping station and watermains - assuming area to the north remains unserviced and area 8 is substantially developed.

Comments: This alternative is tied with area number 7 as the third most expensive area to service, at an estimated cost of \$1.5M.

Since it is smaller in size than area 7, it appears to have less impact on agricultural operations. It would directly affect the 122 hectares and 14 farm operations within its boundaries. However, because it is in the centre of a farm area, it would have the potential to negatively affect farm operations to the north, west and south of it.

The area is not contiguous to any existing or proposed residential development. It would therefore be an isolated pocket of residential development surrounded by rural land use on three sides and future industrial development to the east. The proposed Industrial Park adjacent to this alternative could lead to future land use conflicts.

Conclusions: This area would be expensive to develop, have a high impact on agricultural lands and would be relatively isolated from other residential areas.

AREA NO. 9

Location: South of Twenty Road East at Miles and Glover Roads

Total Area: 294 hectares

Developable Area: 247 hectares

Development Capacity: 2,223 dwellings

Estimated External Servicing Cost: \$870,000 for sanitary sewer from the north and watermains - assuming area to the north will remain undeveloped.

Comments: This area is designated for development as Industrial-Business Park in both the Region's and the Township's Official Plans.

A change of designation to residential would remove 294 hectares of potential industrial land. The area is important for industrial purposes as it contains a number of large blocks of land that could be assembled if there is demand for a large industrial property. This area along with area number 4 provide one of the best opportunities in the Region for large scale assemblies of readily servicable industrial land.

The area could not be readily serviced until the area to the north is developed or in conjunction with development of that area.

If this area were developed for residential purposes, there would be a possibility of conflict with the industrial development to the north.

Conclusions: Area 9 conflicts with the Region's and the Township's plans for industrial development.

AREA NO. 10 - (MOUNT HOPE)

Location: South of Airport Road and west of Highway 6

Total Area: 109 hectares

Developable Area: 78 hectares

Development Capacity: 936 dwellings

Estimated External
Servicing Cost: \$2,600,000 for sanitary sewers and sewage pumping
stations

Comments: This area would be a logical extension to the existing settlement of Mount Hope. A total of 86 existing dwellings within the area under consideration and approximately 185 dwellings adjacent to the area would benefit from the provision of sanitary sewer services.

Development of the area would remove 77 hectares from agricultural use. However, these acreages are already fragmented between 7 agricultural operations.

The development of the area on full urban services may be complicated because the land is fragmented between a number of small land holders. Development may require some land assembly or a special co-ordination role on the part of the Township.

This area is adjacent to the Hamilton Civic Airport. Noise from the airport should not be a major factor in the development of the area for residential purposes, based on the current noise estimates and C.M.H.C. standards.

Conclusions: This area has the second highest cost of servicing at \$2.6M. However, over half the cost would be required to service the designated Airport Industrial-Business Park to the north. Therefore the area should not be developed until such time as the development of the Airport Industrial-Business Park warrants extension of the sanitary sewer services.

AREA NO. 11 - (BINBROOK)

Location: majority of lands are to the west of the existing settlement

Total Area: 347 hectares

Developable Area: 300 hectares

Development Capacity: 2,700 dwellings

Estimated External Servicing Cost: \$9,000,000 for the construction of sanitary sewers, sewage pumping station, and piped water services.

Comments: The development of Binbrook would require a force main sanitary sewer from the serviced area of Stoney Creek along with a pumping station, in addition to the local sewage collection system. The cost of the force main, pumping station and watermains are estimated at \$9M which is approximately four times the next most expensive alternative. If all of Binbrook were developed, it could accommodate approximately 4,500 new dwellings. The cost per unit of external servicing, if all these units were developed, would be approximately \$2,000. However, the projected demand as outlined in Chapter 3 is for a maximum of only 200 dwellings. If only 200 dwellings were developed, the cost for external services would be approximately \$45,000 per dwelling.

Binbrook is furthest removed from Hamilton and residential development in this location would only be competitive with Hamilton, Ancaster and Stoney Creek if it offered a unique type of development. The type of development that would have the best chance of competing would be large lot serviced development. However, this type of development would increase the cost per unit of servicing over the above costs.

Of all the alternatives, Binbrook has the second highest impact on agricultural land with the potential of removing 342 hectares (1.7 farming operations) from agricultural use.

Conclusions: The Development of Binbrook on full services would not be cost effective.

4.6 CONCLUSIONS:

1. There is already sufficient land designated for residential development in the Region to more than meet the projection of growth. The vast majority of those lands are already serviced or have a commitment to servicing in the Region's capital budget. Therefore, planned residential growth in Glanbrook should be based on the requirements associated with possible growth in the Township's population. In order to maintain that population, it is estimated that an additional 200 housing units are required to the turn of the century.
2. Alternatives 4 and 9 should not be considered as they would remove lands from designations as Industrial-Business Park. Although the development of these areas for industrial purposes may not be required immediately, they provide one of the best opportunities for large scale assemblies of readily serviced industrial land in the Region.
3. Alternatives 3 and 5 should not be considered as they are isolated from other residential areas in Glanbrook and would be more closely identified with development in Hamilton and Stoney Creek. Both areas could conflict with planned industrial development adjacent to them.
4. Alternatives 6, 7 and 8 should not be considered as they are all expensive to service and each would have significant negative impacts on agricultural lands and not provide for contiguous development. In addition, the southern portion of Area 6 will be exposed to noise from the Hamilton Airport.
5. Alternative 11, Binbrook, would be very expensive to service. When this area was first designated in the Regional Official Plan, it was based upon an estimated population of 6,000 people. Even with that population, the cost of external services would be high. In light of recent population projection and the availability of lands for development in Ancaster, Stoney Creek and Hamilton, it is unlikely that this area could attract that level of population. With a smaller potential population, the costs per unit for external services become extremely high. Therefore the servicing of this area for residential development is not cost effective.
6. Alternative No. 10, Mount Hope, is only practical if it is done in conjunction with the servicing of the Airport Industrial-Business Park. Since that servicing of the Industrial-Business Park will only take place as demand warrants it, the availability of services to alternative area 10 is unlikely for some time. This area should be considered a potential area for development over a longer time period.
7. The best alternatives to meet the requirement for residential development in Glanbrook are alternatives 1 and 2. Alternative 2 should be developed in conjunction with the provision of services to the existing residential development to the west. Alternative number 1 should be developed in conjunction with specialized senior citizen housing as proposed in the area.

A P P E N D I C E S

APPENDIX A. 1



THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH

Department of Engineering
71 Main Street West, Hamilton, Ont. L8N 3T4 (416) 526-4170

ID 0023D

January 6, 1986

Refer to File No. E201-34
Attention of K. Lapins
Your File No.

WP 2141P

Mr. Chairman and Members
Engineering Services Committee

Future Servicing Alternatives for Glanbrook

Members of the Committee:

Origin

Response to the request by the Committee for identification of areas in Glanbrook with potential for the installation of full urban services.

Reference: Section #15 of the 15-85 Engineering Services Committee Report, adopted by Regional Council, October 15, 1985.

Analysis

Engineering staff have assessed the physical characteristics of the area and the capacity of the existing downstream services and conclude that it would be possible to service the following areas. The majority of these areas are not appropriately designated for development. In most cases, amendment to either or both the Regional and Area Municipal Official Plans would be required before servicing and development could proceed.

Cost estimates in the report reflect initial requirements for external services to open an area to development only and do not include the cost of internals or off-site system enhancements.

1) Area "A"

Location: Lands East of Trinity Church Road and South of Highway No. 53

Area: Approximately 55 hectares

Capacity: Approximately 4,500 persons equivalent

Cont'd

Cont'd

Servicing Considerations:

External sanitary sewer requirements:

- a) Extension of sanitary sewers along Rymal Road from the existing trunk at 410 m east of Dartnall Road to Trinity Church Road.

Estimated Cost \$490,000

- b) Extension of sanitary sewers on future streets south of H.E.P.C. corridor from the present southern terminal just east of Dartnall Road at south limit of H.E.P.C. lands to Trinity Church Road through the area of Glanbrook Industrial Park.

Estimated Cost \$480,000

Total estimated cost for external sanitary sewers
(Items a and b) amounts to \$970,000.

Watermains are available on the adjacent Highway No. 53 and Trinity Church Road.

2) Area "B"

Location: Miles Road - Upper Gage and Upper Ottawa Street
Extensions South of City of Hamilton Limits

Area: Approximately 130 hectares.

Capacity: Approximately 7,800 persons equivalent.

Servicing Considerations:

External sanitary sewer requirements:

- a) On Upper Ottawa Street extension southerly from about 110 m south of Kilbride Road to the south limit of H.E.P.C. Corridor, south of City limits.

Estimated cost \$150,000

- b) On future streets through Broughton East Neighbourhood from the present sewer terminal at 250 m south-west of the intersection of Rymal Road and Upper Ottawa Street to the south limit of H.E.P.C. Corridor at future southerly extension of Upper Gage Avenue.

Estimated cost \$390,000

Total estimated cost for external sanitary sewers
(Items a and b) amounts to \$540,000.

Cont'd

Cont'd

Required external watermains:

- a) On Upper Ottawa Street extension southerly from Hamilton City limits to the south limit of H.E.P.C. Corridor.

Estimated Cost \$110,000

- b) On Upper Gage Avenue extension southerly from Rymal Road to the south limit of H.E.P.C. Corridor

Estimated Cost \$220,000

Total estimated cost of external watermains is \$330,000

Total estimate for external sanitary sewers and watermains amounts to \$870,000

3) Area "C"

Location: Lands North of Twenty Road East and East of Springside Drive (adjacent on the east to the existing residential development of Aldercrest Avenue - Springside Drive area)

Area: Approximately 26 hectares.

Capacity: Approximately 1,600 persons equivalent.

Servicing Considerations:

The installation of an external sanitary sewer on Twenty Road East from Highway No. 6 to the east limit of the existing development just east of Springside Drive is required at an estimated cost of \$400,000.

This sewer would also serve as an outlet for future sanitary sewers in the existing residential area of Aldercrest Avenue, Seneca Avenue and Springside Drive.

Watermains are available for servicing the area on Twenty Road East and Springside Drive.

Cont'd

Cont'd

4. Area "D"

Location: Lands North and South of Twenty Road West between Highway No. 6 and Glancaster Road

Area: Approximately 400 hectares

Capacity: Approximately 20,000 persons equivalent

Servicing Considerations:

This area can be readily serviced with sanitary sewers to the recently installed sewage pumping station at Highway No. 6 and Twenty Road.

The pre-requisite for further internal servicing of the area is the installation of sanitary trunk sewer in the Twenty Mile Creek Valley from the existing pumping station at intersection of Highway No. 6 and Twenty Road in the north-westerly direction to the City of Hamilton limits, for an estimated cost of \$600,000.

Trunk watermains for the commencement of the development are available on Highway No. 6 and also on Twenty Road West from Highway No. 6 to 600 m westerly.

5. Area "E"

Location: Mount Hope Area

Area: 150-300 hectares

Capacity: 150 hectares industrial plus approximately 11,000 persons equivalent

Servicing considerations:

In the design of the existing sanitary sewer on Highway No. 6 from the Pumping Station at Twenty Road southerly to the Regional Transit Centre capacity was provided for future service:

- a) 150 hectares of industrial land in the Dickenson Road area west of Highway No. 6 by gravity sewers to Highway No. 6.
- b) 150 hectares of future development on lands in the Dickenson Road area west of Highway No. 6 and along Highway No. 6 by gravity sewers.

The gravity flow sanitary sewer installation can be extended southerly on Highway No. 6 from the present terminal at Regional Transit Centre to the height of land about 975 m south of Dickenson Road.

ont'd

Dickenson Road can be serviced with gravity flow sanitary sewers from Glancaster Road to Highway No. 6.

- c) Further allowance was made for Mount Hope Airport expansion, associated commercial development and residences in the Mount Hope Settlement area, - an equivalent of 5000 persons on 100 hectares to be added to the sanitary sewer system by pumping and forcemain at maximum pumping rate of 115 l/sec from a future sewage pumping station in the Three Mile Creek Valley.

This future pumping station would be located in a suitable location near Highway No. 6 in the Three Mile Creek Valley (south of English Church Road).

The sewage from the Airport and adjacent settlement area would be conveyed by gravity sewers to the pumping station in the above described location, and from there pumped via forcemain to the southern terminal of the Highway No. 6 gravity sewer at 975 m south of Dickenson Road for further gravity flow northerly.

Generally, the provision of sanitary sewer service in the Mount Hope Settlement area will be more expensive than in the other areas, because of the additional pumping requirement.

External sanitary sewer requirements for servicing the Airport and Mount Hope Settlement area:

- a) Extension of sanitary sewer along Highway No. 6 from its present terminal at Regional Transit Centre southerly to the height of land at about 975 m south of Dickenson Road.

Estimated Cost \$900,000

- b) Pumping Station in the Three Mile Creek Valley at Highway No.6.

Cost Allowance \$600,000

Cont'd

Cont'd

- c) Forcemain from the pumping station (Item b) to the southern terminal of gravity sewer on Highway No. 6 at 975 m south of Dickenson Road.

Estimated Cost \$100,000

Total cost for Items a, b and c amounts to \$1,600,000.

The trunk watermain is available on Highway No. 6 for the development of Mount Hope area.

Conclusion

The above analysis considers only the requirements and costs of sanitary sewer and water service extension. Prior to final decisions being made on the amount, type and distribution of future development in Glanbrook, several additional factors should be given consideration. A joint Engineering and Planning investigation to address these factors is contained in the respective departmental work programs for 1986.

Recommendation

1. That this interim report on the optional future servicing alternatives for Glanbrook be received for the information of the Committee and be included as input into the joint review of the development options, to be undertaken in 1986 by the Engineering and Planning Departments in consultation with the Township of Glanbrook, and that no further action on this matter be taken until this comprehensive analysis of alternatives is completed.
2. That copies of this report be forwarded to the Township of Glanbrook for their input at the next meeting of the Engineering Services Committee.



J. R. G. Leach
Commissioner of Engineering

KL:cd

cc: Wm. L. Sears, Regional Chairman
cc: C.T.C. Armstrong, Regional Co-ordinator

APPENDIX A. 2

GLANBROOK URBAN AREA STUDYDESCRIPTION OF ALTERNATIVE URBAN AREASALTERNATIVE AREA - 1SIZE OF AREA - hectares (acres) - 214 (529)NUMBER OF PROPERTIES - 61MEAN SIZE OF PROPERTIES - hectares (acres) - 3.51 (8.7)MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.81 (2.00)TOTAL POPULATION (1985) - 153TOTAL NUMBER OF OCCUPIED DWELLINGS - 50PERSONS PER OCCUPIED DWELLING - 3.06AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 29 years (1957)LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 48 | 56.84 (140.36) | 1.18 (2.92) |
| Other residential | 0 | 0 (0) | 0 (0) |
| Commercial | 1 | 0.34 (0.83) | 0.34 (0.83) |
| Industrial | 1 | 0.34 (0.83) | 0.34 (0.83) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 3 | 46.43 (114.74) | 15.48 (38.24) |
| Agricultural | 5 | 100.06 (247.25) | 49.45 (20.01) |
| Vacant | 3 | 10.16 (25.11) | 3.39 (8.37) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 2

SIZE OF AREA - hectares (acres) - 43 (106)

NUMBER OF PROPERTIES - 4

MEAN SIZE OF PROPERTIES - hectares (acres) - 10.72 (26.49)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 11.72 (28.96)

TOTAL POPULATION (1985) - 4

TOTAL NUMBER OF OCCUPIED DWELLINGS - 1

PERSONS PER OCCUPIED DWELLING - 4.00

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 22 years (1964)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 1 | 0.16 (0.40) | 0.16 (0.40) |
| Other residential | 0 | 0 (0) | 0 (0) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 1 | 6.62 (16.35) | 6.62 (16.35) |
| Agricultural | 2 | 36.11 (89.22) | 18.01 (44.61) |
| Vacant | 0 | 0 (0) | 0 (0) |

GLANBROOK URBAN AREA STUDYDESCRIPTION OF ALTERNATIVE URBAN AREASALTERNATIVE AREA - 3SIZE OF AREA - hectares (acres) - 121 (298)NUMBER OF PROPERTIES - 44MEAN SIZE OF PROPERTIES - hectares (acres) - 2.74 (6.78)MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.84 (2.08)TOTAL POPULATION (1985) - 112TOTAL NUMBER OF OCCUPIED DWELLINGS - 36PERSONS PER OCCUPIED DWELLING - 3.11AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 27 years (1959)LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 33 | 26.03 (64.31) | 0.79 (1.95) |
| Other residential | 1 | 0.30 (0.73) | 0.30 (0.73) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 2 | 25.08 (61.98) | 12.54 (30.99) |
| Agricultural | 6 | 65.45 (161.73) | 10.91 (26.96) |
| Vacant | 1 | 3.87 (9.60) | 3.89 (9.60) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 4

SIZE OF AREA - hectares (acres) - 186 (461)

NUMBER OF PROPERTIES - 30

MEAN SIZE OF PROPERTIES - hectares (acres) - 6.21 (15.35)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.40 (1.00)

TOTAL POPULATION (1985) - 59

TOTAL NUMBER OF OCCUPIED DWELLINGS - 19

PERSONS PER OCCUPIED DWELLING - 3.11

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 37 years (1949)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 18 | 6.42 (15.86) | 0.36 (0.88) |
| Other residential | 0 | 0 (0) | 0 (0) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 1 | 0.39 (0.96) | 0.39 (0.96) |
| Institutional | 1 | 1.19 (2.93) | 1.19 (2.93) |
| Utilities | 6 | 93.81 (231.78) | 15.64 (38.63) |
| Agricultural | 4 | 84.62 (209.10) | 21.16 (52.28) |
| Vacant | 0 | 0 (0) | 0 (0) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 5

SIZE OF AREA - hectares (acres) - 61 (150)

NUMBER OF PROPERTIES - 7

MEAN SIZE OF PROPERTIES - hectares (acres) - 8.66 (21.39)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 14.39 (35.56)

TOTAL POPULATION (1985) - 14

TOTAL NUMBER OF OCCUPIED DWELLINGS - 3

PERSONS PER OCCUPIED DWELLING - 4.67

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 75 years (1911)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 1 | 0.21 (0.51) | 0.21 (0.51) |
| Other residential | 0 | 0 (0) | 0 (0) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 2 | 14.58 (36.04) | 7.29 (18.02) |
| Agricultural | 4 | 45.81 (113.19) | 45.81 (113.19) |
| Vacant | 0 | 0 (0) | 0 (0) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 6

SIZE OF AREA - hectares (acres) - 383 (947)

NUMBER OF PROPERTIES - 230

MEAN SIZE OF PROPERTIES - hectares (acres) - 1.67 (4.12)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.14 (0.35)

TOTAL POPULATION (1985) - 430

TOTAL NUMBER OF OCCUPIED DWELLINGS - 139

PERSONS PER OCCUPIED DWELLING - 3.09

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 36 years (1950)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 126 | 80.12 (198.17) | 0.64 (1.57) |
| Other residential | 1 | 0.10 (0.25) | 0.10 (0.25) |
| Commercial | 3 | 13.60 (33.59) | 4.53 (11.20) |
| Industrial | 1 | 0.19 (0.46) | 0.19 (0.46) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 2 | 20.84 (51.49) | 10.42 (25.75) |
| Agricultural | 12 | 238.77 (590.04) | 19.90 (49.17) |
| Vacant | 84 | 29.10 (72.34) | 0.35 (0.86) |
| Other | 1 | 0.40 (0.98) | 0.40 (0.98) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 7

SIZE OF AREA - hectares (acres) - 381 (941)

NUMBER OF PROPERTIES - 127

MEAN SIZE OF PROPERTIES - hectares (acres) - 3.00 (7.41)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.15 (0.36)

TOTAL POPULATION (1985) - 341

TOTAL NUMBER OF OCCUPIED DWELLINGS - 105

PERSONS PER OCCUPIED DWELLING - 3.25

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 30 years (1956)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 96 | 20.89 (51.81) | 0.22 (0.54) |
| Other residential | 2 | 0.22 (0.56) | 0.11 (0.28) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 1 | 0.19 (0.46) | 0.19 (0.46) |
| Institutional | 1 | 2.93 (7.25) | 2.93 (7.25) |
| Utilities | 2 | 10.66 (26.32) | 5.33 (13.16) |
| Agricultural | 22 | 343.99 (850.01) | 15.64 (38.64) |
| Vacant | 3 | 1.93 (4.77) | 0.64 (1.59) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 8

SIZE OF AREA - hectares (acres) - 149 (369)

NUMBER OF PROPERTIES - 48

MEAN SIZE OF PROPERTIES - hectares (acres) - 3.11 (7.69)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.22 (0.54)

TOTAL POPULATION (1985) - 132

TOTAL NUMBER OF OCCUPIED DWELLINGS - 39

PERSONS PER OCCUPIED DWELLING - 3.38

AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 33 years (1953)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 32 | 13.08 (32.38) | 0.41 (1.01) |
| Other residential | 0 | 0 (0) | 0 (0) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 1 | 0.71 (1.76) | 0.71 (1.76) |
| Utilities | 1 | 13.40 (33.11) | 13.40 (33.11) |
| Agricultural | 14 | 122.21 (301.96) | 8.73 (21.57) |
| Vacant | 0 | 0 (0) | 0 (0) |

GLANBROOK URBAN AREA STUDYDESCRIPTION OF ALTERNATIVE URBAN AREASALTERNATIVE AREA - 9SIZE OF AREA - hectares (acres) - 294 (728)NUMBER OF PROPERTIES - 112MEAN SIZE OF PROPERTIES - hectares (acres) - 2.62 (6.50)MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.21 (0.51)TOTAL POPULATION (1985) - 265TOTAL NUMBER OF OCCUPIED DWELLINGS - 97PERSONS PER OCCUPIED DWELLING - 2.73AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 32 years (1954)LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 75 | 36.65 (90.81) | 0.49 (1.21) |
| Other residential | 1 | 1.21 (3.00) | 1.21 (3.00) |
| Commercial | 0 | 0 (0) | 0 (0) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 0 | 0 (0) | 0 (0) |
| Utilities | 5 | 9.34 (23.09) | 1.87 (4.62) |
| Agricultural | 21 | 234.92 (580.48) | 11.19 (27.64) |
| Vacant | 9 | 11.44 (28.27) | 1.27 (3.14) |
| Other | 1 | 0.90 (2.23) | 0.90 (2.23) |

GLANBROOK URBAN AREA STUDY
DESCRIPTION OF ALTERNATIVE URBAN AREAS

ALTERNATIVE AREA - 10

SIZE OF AREA - hectares (acres) - 109 (271)

NUMBER OF PROPERTIES - 95

MEAN SIZE OF PROPERTIES - hectares (acres) - 1.15 (2.85)

MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.15 (0.36)

TOTAL POPULATION (1985) - 265

TOTAL NUMBER OF OCCUPIED DWELLINGS - 86

PERSONS PER OCCUPIED DWELLING - 3.08

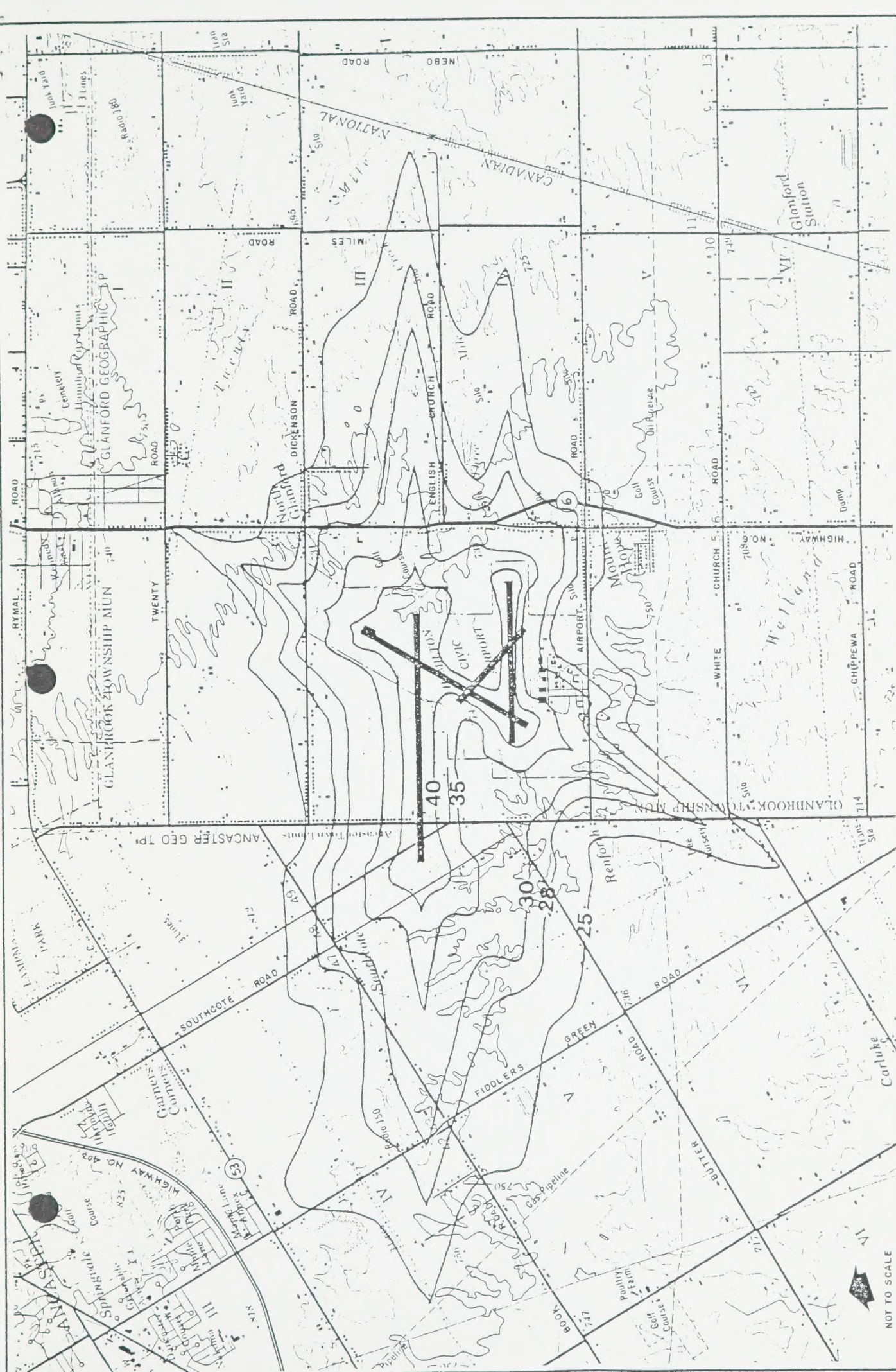
AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 37 years (1949)

LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 74 | 23.66 (58.75) | 0.32 (0.79) |
| Other residential | 2 | 0.41 (1.01) | 0.21 (0.51) |
| Commercial | 6 | 2.29 (5.67) | 0.38 (0.95) |
| Industrial | 2 | 1.21 (3.00) | 0.56 (1.50) |
| Institutional | 2 | 3.62 (8.96) | 1.81 (4.48) |
| Utilities | 0 | 0 (0) | 0 (0) |
| Agricultural | 7 | 77.43 (191.34) | 11.06 (27.33) |
| Vacant | 1 | 0.28 (0.68) | 0.28 (0.68) |
| Other | 1 | 0.49 (1.21) | 0.49 (1.21) |

GLANBROOK URBAN AREA STUDYDESCRIPTION OF ALTERNATIVE URBAN AREASALTERNATIVE AREA - 11SIZE OF AREA - hectares (acres) - 347 (857)NUMBER OF PROPERTIES - 163MEAN SIZE OF PROPERTIES - hectares (acres) - 2.13 (5.26)MEDIAN SIZE OF PROPERTIES - hectares (acres) - 0.19 (0.46)TOTAL POPULATION (1985) - 452TOTAL NUMBER OF OCCUPIED DWELLINGS - 170PERSONS PER OCCUPIED DWELLING - 2.66AVERAGE AGE OF RESIDENTIAL DWELLING (year built) - 46 years (1940)LAND USE

| | NUMBER OF PROPERTIES | TOTAL PROPERTY SIZE | AVERAGE PROPERTY SIZE |
|-------------------------|-------------------------|---------------------------|-----------------------------|
| Single family dwellings | 110 | 26.05 (64.39) | 0.24 (0.59) |
| Other residential | 4 | 2.16 (5.37) | 0.54 (1.34) |
| Commercial | 13 | 8.56 (21.15) | 0.66 (1.63) |
| Industrial | 0 | 0 (0) | 0 (0) |
| Institutional | 10 | 2.17 (5.35) | 0.22 (0.54) |
| Utilities | 2 | 0.10 (0.26) | 0.05 (0.13) |
| Agricultural | 16 | 297.66 (735.53) | 18.60 (45.97) |
| Vacant | 4 | 1.90 (4.68) | 0.48 (1.17) |
| Other | 4 | 7.96 (19.66) | 1.99 (4.92) |



HAMILTON AIRPORT NOISE EXPOSURE FORECAST - 1988

MAP A. I

Legend

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